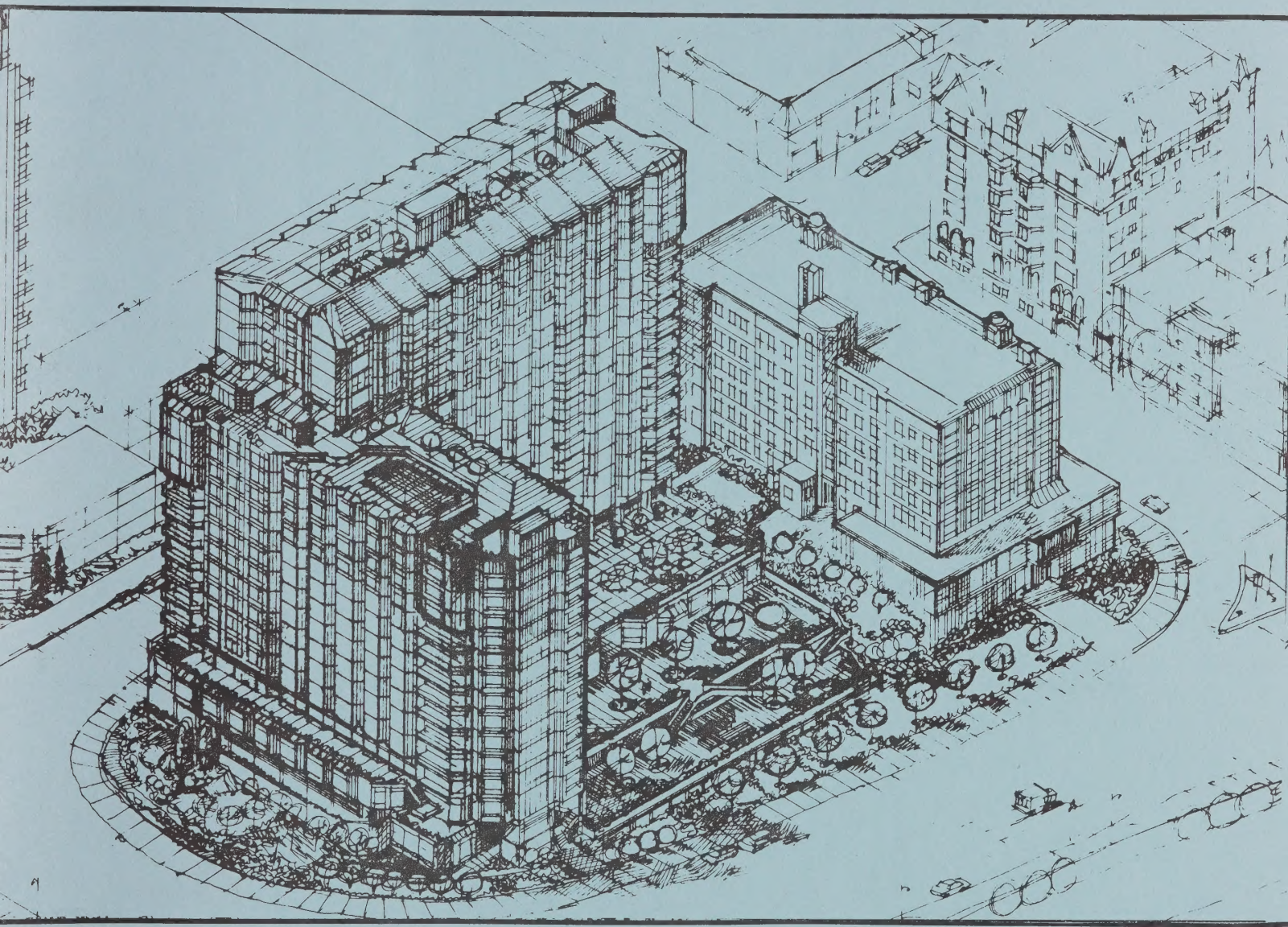
LAKE POINT TOWERS



DRAFT
ENVIRONMENTAL IMPACT REPORT

CITY OF OAKLAND

ER 85-28
SCH 85091002

JEFFERSON ASSOCIATES, INC.

OCTOBER 1985

File No. ER - 85 - 28
Ref. No. CMDV 85-218

City of Oakland
Oakland, California

DRAFT ENVIRONMENTAL IMPACT REPORT FOR:
Lake Point Towers
(Project Name)
California Environmental Quality Act (CEQA)

RELEASE OF REPORT FOR PUBLIC REVIEW

The City of Oakland is hereby releasing this draft Environmental Impact Report (EIR), finding it to be accurate and complete and ready for public review. Members of the public are invited to respond to the EIR. Comments should focus on the sufficiency of the EIR in discussing possible impacts on the environment, ways in which adverse effects might be minimized, and alternatives to the project in light of the EIR's purpose to provide useful and accurate information about such factors. Please address all comments to the Oakland City Planning Commission, 6th Floor, City Hall, 1421 Washington St., Oakland, California, 94612. Comments should be received no later than November 20, 1985.

[X] The City Planning Commission will conduct a public hearing on the draft EIR on November 20 at 2:00 p.m. in Room 115, City Hall.

[ ] After all comments are received, a final EIR will be prepared and considered for acceptance by the City Planning Commission on _____ at _____ in Room 115, City Hall.

[X] The draft EIR is attached.

[ ] The draft EIR is available at the City Planning Department.

If you have any questions, please telephone the City Planning Department at 273- 3911. Ask for Willie Yee.

Norman J. Lind

NORMAN J. LIND
Director of City Planning

DATE: October 18, 1985

File No. ER-85-28
Ref. No. CMDV 85-218

City of Oakland
Oakland, California

DRAFT ENVIRONMENTAL IMPACT REPORT FOR:
Lake Point Towers
(Project name)
California Environmental Quality Act (CEQA)

SUMMARY

A. GENERAL INFORMATION

Project Title Lake Point Towers

Location Oakland, California

Project Sponsor Neault and Associates

Address 1800 Madison Street

B. PROJECT DESCRIPTION:

See Section III - Page III - 1

C. SUMMARY OF ENVIRONMENTAL CONSEQUENCES OF THE PROJECT:

See Section I - Page I-1

D. POSSIBLE MITIGATION MEASURES TO MINIMIZE ANY ADVERSE EFFECTS OF THE PROJECT:

Traffic and Transportation - Page IV-B-45
Microclimate - Page IV-C-5
Energy - Page IV-D-2
Geology - Page IV-E-7
Visual Quality, Urban Design, Shade and Shadow - Page IV-F-30
Community Services and Facilities - Page IV-G-3, IV-G-6
IV-G-17
Noise - Page IV-H-7

E. AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED:

See Section IX - Page IX-2

F. PUBLIC AGENCIES HAVING JURISDICTION BY LAW OVER THE PROJECT:

City of Oakland

G. PRELIMINARY DRAFT EIR PREPARED BY: Jefferson Associates, Inc.

DATE COMPLETED: October 1985

LAKE POINT TOWERS RESIDENTIAL PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT

City of Oakland

October 1985
Jefferson Associates, Incorporated

ER 85-28
SCH 85091002

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I. SUMMARY

A. PROJECT DESCRIPTION

1. Location

The project site consists of a portion of the block in the Lakeside district bounded by 17th Street, Madison Street, and Lakeside Drive.

2. Proposed Project

The proposed project is a 345,046 g.s.f. residential development consisting of 300 senior housing units and 158 market-rate housing units. Two structures are proposed, one eighteen stories and the other fourteen stories. The eighteen-story structure fronts 17th Street, while the 14-story tower faces Lake Merritt. A 308-space parking garage is located under the residential structures. Accessory recreation, dining, office and retail facilities are also proposed.

B. LAND USES AND RELATIONSHIP TO PLANS

1. Setting

The site currently contains one open parking area and an existing structure. The paved off-street parking area is used by patrons of the Lake Merritt Hotel. The existing structure is the 28-unit Venetia Apartment Building. Vacant area surrounding the apartment building is used by its residents for parking. A small unsecured paved parking area serving the Venetia Apartments is located along Lakeside Drive. Approximately seven designated parking spaces are located within this area.

The project site is located in the Lakeside district of Oakland.

This area is characterized by predominantly mid- to high-rise residential structures. Some office structures are located north of 19th Street. Residential structures border 17th Street adjacent to the site. The rest of the site is bordered by the Lake Merritt park area.

The zoning designation for this site is R-90/S-4/S-5. The R-90 zone is intended to create, preserve, and enhance areas for high-rise apartment living at very high densities. The S-4 Design Review Combining Zone is intended to create, preserve, and enhance the visual harmony and attractiveness of areas. The S-5 Travel Accommodations Combining Zone is intended to create areas that provide sleeping accommodations to travelers. Hotels are a permitted use within this combining zone.

City review of the project would entail major Conditional Use Permit and Design Review. Building and demolition permits will also be required.

2. Impacts

The proposed residential project would require removal of the Venetia Apartment Building and the parking lot for patrons of the Lake Merritt Hotel. These off-street parking spaces would be relocated to an unused parking area under the Hotel. The proposal is consistent with the goals and policies of the Oakland Comprehensive Plan. The proposal's land uses, and floor-area ratio are consistent with the zoning regulations. The density will also be consistent if a use permit to increase the number of allowed elderly units is approved.

3. Mitigation

Necessary development permits will have to be obtained. Design guidelines have been prepared which could mitigate some adverse impacts on adjacent structures (see Section IV-F for the guidelines). The developer will be required to submit detailed plans for Major Conditional Use and Design Review approval to the Oakland City Planning Commission.

C. TRAFFIC AND TRANSPORTATION

1. Setting

The proposed site for the Lake Point Towers project is served by three major freeways:: the Nimitz Freeway, the Grove-Shafter Freeway, and the MacArthur Freeway. These freeways do not experience peak hour congestion near the project site. All local streets near the project operate at acceptable levels of service during the evening peak hour. The most substantial congestion occurs in the Harrison Street corridor from 20th to 27th Streets.

Transit service is provided by the Alameda/Contra Costa County Transit District (AC Transit) and the Bay Area Rapid Transit District (BART). PM peak hour load factors on AC Transit routes serving the site range from 32 percent to 83 percent of seated capacity. The average peak hour load factor for all routes leaving the Central Business District is 67 percent of seated capacity. BART evening peak hour load factors range from .64 to 1.33. The Daly City to Concord and Daly City to Fremont lines

have the highest utilization.

A total of about 360 public off-street parking spaces exist within three blocks of the Lake Point Towers site. During the peak mid-morning and mid-afternoon parking periods an average of 85 percent of these public parking spaces are occupied. The project block currently has 26 off-street parking spaces serving the Lake Merritt Hotel and Restaurant. Approximately 22 marked and unmarked spaces serve the Venetia Apartments residents.

Adjacent to the project site the greatest pedestrian activity occurs at the intersection of Madison and 17th Streets. Overall, the pedestrian flows are very light and "free flow" conditions exist at all the intersections during peak period conditions.

2. Impacts

As proposed, the project would generate a total of 2,570 person trips per day, of which approximately 230 would be during the PM peak hour. Due to the residential nature of the proposed development, the majority of trips will be traveling to, rather than away from, the project site during the PM peak period.

Anticipating the 1995 cumulative development in the Oakland Central Business District without the Lake Point Towers project would result in deficient levels of service ("E" or worse) at six of the 26 intersections analyzed. Four additional intersections would experience level of service "D". The difference between the 1995 traffic with the proposed project and the 1995 traffic without the proposed project would not be significant.

The Lake Point Towers project would generate an additional 65 rides on AC Transit during the PM peak period in downtown Oakland. Because of the residential nature of this project, only the buses outbound from the Central Business District will be impacted by this increased demand. Only five trips are outbound during the PM peak hour. Impacts from the project to AC Transit would therefore be negligible.

The proposed project would generate 40 evening peak period (two-hour) BART trips. The majority of these trips would be inbound to the Oakland Central Business District during the PM peak period period originating in the West Bay. The Lake Point Towers project would not alter the 1995 BART load factors due to the small number of BART trips it generates during the PM peak period.

The proposed 308-stall parking garage would more than meet the requirements as specified in the Oakland Zoning Regulations if a use permit to reduce the number of parking spaces for the elderly units is approved. Otherwise, a total of 458 spaces are required by the zoning regulations. Parking demand for the project has been estimated at 388 spaces. This was based on a standard residential demand of 1.03 parking spaces per market rate unit and .75 spaces per senior housing unit. Based on the <u>estimated</u> parking demand, the Lake Point Towers project could result in a parking shortfall of 80 spaces for the new development and an additional seven spaces for the Lake Merritt Hotel. Employment of tandem parking would add another 77 to on-site spaces, bringing the total to 385, only three short of the estimated

demand. The project would remove 48 existing off-street parking spaces and 3 on-street spaces.

In 1995, the cumulative demand for parking within 2,000 feet of the project would be approximately 7,190 spaces. The projects would provide a total of about 4,055 parking stalls, while removing 480 existing spaces, resulting in a net excess demand of about 3,615 spaces. The remaining downtown projects would create additional demand for 14,280 parking stalls. The supply would be increased by 8,780 new spaces, but 1,390 existing parking stalls would be removed, resulting in a net shortfall of 6,890 parking spaces. Accounting for all downtown development, a cumulative shortfall of approximately 10,560 parking spaces would exist.

The proposed project would generate approximately 100 pedestrian trips during the PM peak 15-minute period, less than half of which would be external to the site. Currently, sidewalks and crosswalks adjacent to the site are free-flowing during the peak afternoon period. Completion of the proposed project would not alter the established free-flow pattern.

3. Mitigation

Provide 77 tandem parking spaces, with valet parking services. Provide a curbside passenger loading zone in front of the lobby at the senior housing units. Install a traffic signal or pedestrian crossing warning markings on the pavement approaching intersection of Lakeside and 17th Street as determined by Department of Public Works.

D. MICROCLIMATE

1. Setting

The prevailing wind direction is east, reflecting the location of the Golden Gate. Winds from this direction are also the strongest, averaging 10.1 knots. Mean maximum monthly temperatures in Oakland range from 55 degrees in the winter to 74 degrees in the summer.

2. Impacts

The proposed project will have only a minor effect on ground level winds along sidewalk areas near the site. No hazardous or unusually uncomfortable conditions are expected. The plaza would be protected from prevailing winds by the massing of the project buildings.

3. Mitigation

Should entrances be proposed between the Lake Merritt Hotel and the eighteen-story residential tower, a revolving door is recommended because it is not affected by wind pressure.

E. ENERGY

1. Setting

Pacific Gas and Electric provides natural gas and electricity to the project site.

2. Impacts

The proposed residential buildings could have a maximum consumption of 2.3 million kwh of electricity and about 366,400 therms of natural gas annually for cooling, heating, lighting, and water heating. Car travel induced by the project would result in

approximately 400 gallons of gasoline consumed per day for the proposed project.

3. Mitigation

The project is subject to Title 24, State Energy Conservation Standards, which are designed to mitigate energy impact. Pacific Gas and Electric has additional energy conservation measures that are designed to further reduce energy consumption.

F. GEOLOGY, HYDROLOGY, SEISMOLOGY

1. Setting

The ground surface of the project site slopes downward from the high point of the site at the corner of Madison and 17th Street, which is approximately elevation 25, to Lakeside Drive to the north and east, which are about elevation 7 and 11 respectively. The project site subsurface conditions consist of three geologic formations: Merritt Sand; San Antonio clay, gravel, and sand; and Alameda clay. The site is also in a seismically active region with three active faults that could produce shaking on the project site.

2. Impacts

Six geological concerns were assessed within the Woodward-Clyde geotechnical study: subsurface conditions, heave estimates, settlement estimates, foundations, basement construction, and excavation shoring. They interpreted the existing geologic, hydrologic and seismic conditions of the area to impose constraints on the project that would require special design considerations.

3. Mitigation

A detailed geotechnical engineering study should be prepared, including a seismic design study, prior to detailed project design. In addition to this study, specific construction measures are recommended that will minimize potential impacts.

G. VISUAL QUALITY, URBAN DESIGN, SHADE AND SHADOW

1. Setting

The project is located within a primarily residential district characterized by a variety of architectural styles. There are buildings dating from the 1920s as well as buildings from the 1950s and 1960s. Because of this variety, the neighborhood's character relies more on consistencies in building scale, form, and surface treatment than on a dominant architectural style.

2. Impacts

The impacts of the proposed project have been evaluated for their conformance to applicable design criteria used by the City. The ordinance stipulates that new developments shall be evaluated on their relationship to the existing surroundings and view corridors, the relationship of the building to other buildings in the vicinity, and the quality of the living environment. The evaluation of this project against the forementioned design criteria indicates that there will be some interruption of view corridors. Some views to and from the Oakland Tribune Tower and Oakland City Hall will be blocked. It is understood that there are also many viewpoints not impacted by the project. Views of the project from Designated Vantage Points along the Lake Merritt

should illustrate the scale of the project relative to surrounding buildings. These views indicate that the project is not substantially taller than the line of residential towers along Lakeside Drive, and is at a lower height than some of the nearby office buildings. The building mass will be most noticeable to pedestrians along 17th Street. The structure has been stepped back along Lakeside Drive through a series of terraces, which reduces the buildings mass along Lakeside. While the height of the building is similar to surrounding structures and is not in itself a negative impact, the location of the structure's south wall so close to the sidewalk could create an overpowering presence to the pedestrian. The orientation of the building on-site would provide a relatively high quality living environment from within the public rooms and dwelling units, with most enjoying views of the Lake. The most significant shading impacts on the site and its surroundings will result from the project itself. Some open space areas will be in shadow much of the year.

3. Mitigation

Design guidelines have been developed that could mitigate some of the adverse impacts created by the proposed project. Relocation of the building on-site and/or creation of two separate towers could eliminate the interruption of view corridors and the shadowing of some public open space areas. The building mass would also be broken up. However, these design alternatives would create taller buildings on-site.

H. COMMUNITY SERVICES AND FACILITIES

1. Setting

The project is located within District 1 of the Oakland Police Department. Fire Protection is provided by the Oakland Fire Department from three separate locations. The site is within the Oakland Unified School District and would be served by Lincoln Elementary School, Westlake Junior High and Technical High School. Wastewater treatment for the project site is provided by the Special Sewage Treatment District No. 1 (SD1) of the East Bay Municipal Utilities District (EBMUD).

2. Impacts

The project would place additional manpower requirements on both the Police and Fire Departments. There could be additional police traffic control and patrol requirements due to the project. The annual inspection of high-rise buildings would cause an additional personnel load on the Fire Department. The existing junior high and high school could be expected to have ample capacity to serve children living within the Lake Point Towers Residential Project. Lincoln Elementary School, however, is currently operating at capacity and could not handle additional children. The project is not expected to house a significant amount of children because of the senior units and small size of the market-rate units. The proposed project would result in approximately 40,670 gallons of wastewater flowing into the sewage treatment plant. While the existing system capacity is more than adequate to handle dry weather flows, during wet weather peak flows commonly exceed peak capacity.

3. Mitigations

A variety of mitigation measures are suggested to provide traffic control and building site security. Fire mitigation measures are required in compliance with various codes. The anticipated number of children living on-site is very small, and should therefore result in no significant impact to the school district. The City of Oakland is currently conducting an infiltration/inflow study in order to determine the most cost-effective means to rehabilitate the existing sewer system. This study is expected to be completed by the end of 1985.

I. NOISE

1. Setting

The predominant sources of noise in the project area are automobiles, trucks, motorcycles, and aircraft flybys. Existing noise levels around the site from these sources range from 55 dB to 70 dB.

2. Impacts

Noise impacts from the project to the surrounding neighborhood would occur primarily during the construction of the buildings. Some increase to existing noise levels could also occur from mechanical equipment serving the buildings and from additional automotive traffic. These increases, however, should be barely audible and are therefore not significant.

3. Mitigations

Placement and type of mechanical equipment used in the proposed project should be chosen so as to ensure that noise levels outside the rooms nearest the project do not exceed 45 dBA. The proposed residential project will be required to meet Title 25 requirements. This set of requirements is commonly referred to as the Noise Insulation Standards and sets limits for accepted interior noise levels within residential structures.

The following measures could be taken to minimize the impact of on-site construction noise on adjacent land uses.

- During pile driving, pre-drill the holes so as to minimize the number of blows required to drive the piles. This also keeps the source of the sound near the ground and minimizes propagation over great distances.
- To further mitigate the noise of pile driving, portable shrouds can be erected around the driver, affording up to 15 dBA of shielding. This is a relatively expensive technique.
- Another method of mitigating the pile driver noise could be to limit the hours of operation to the time when the least number of people would be impacted.
- Locate fixed noisy equipment such as concrete pumpers, compressors, etc. away from existing nearby land uses.
- Limit the noise output of construction equipment except impact tools to 85 dBA at 100 feet.
- All eqiupment including impact tools should be fitted with mufflers which are in good condition.
- Erect a solid wall safety barrier around the construction site so that it can also serve as a noise barrier. This is particularly effective for shielding pedestrians and the lower floors of buildings from ground-based noise sources.
- To mitigate the noise impact of haul trucks, the trucks should be well-muffled and well-maintained.

- To reduce the impact of construction vehicles on nearby residences, the trucks should not caravan to the site through residential neighborhoods before 7:30 a.m.

J. ALTERNATIVES

1. No Project Alternative

This alternative would keep the site as it is. Existing land uses would remain the same. Future development options would remain open.

2. Hotel/Market-Rate Housing Alternative

(a) Setting

This alternative would retain the 158 market-rate housing units and replace the senior units with a 300-room hotel. A restaurant would also be provided. The building heights and footprints are the same as those of the proposed project. The building size and total density are also the same as the proposed project. A total of 388 parking spaces are proposed by the use of tandem parking. The S-5 combining zone permits hotel uses.

City review of this alternative would require major conditional use permit and design review. Building and demolition permits would also be required.

(b) Impacts

This alternative would also demolish the Venetia Apartment Building. The proposal is consistent with the goals and policies of the Oakland Comprehensive Plan. Its land uses, site density

and floor-area ratio are consistent with the zoning regulations. The proposal is also consistent with the general permit approval criteria for conditional use permits and design review.

The hotel alternative would replace the 300 senior housing units in the proposed project with 300 hotel rooms. There would be a resultant increase to the number of daily and PM peak hour person trips and vehicle trips. The street and pedestrian network under the hotel alternative would be fundamentally unchanged; however, there would be a greater demand for passenger loading space to accommodate hotel guests.

The hotel alternative is estimated to generate the same parking demand as the proposed project, e.g., 388 parking stalls. The proposed garage, with the addition of 77 tandem parking spaces (total of 385 spaces), would satisfy the code requirement for parking and would fall only three spaces short of meeting the estimated demand.

(c) Mitigations

Proposed mitigation measures include creation of a hotel shuttle service, installation of a public transit information area, installation of traffic lights or flashing warning lights at the intersection of 17th Street and Lakeside Drive. Closing off 17th Street as an entry/exit point from Lakeside Drive.

3. Visual (Mitigated) Alternative

(a) Setting

This alternative provides a visual mitigation to the proposed project's bulk. It would maintain the same number and type of uses, but the building footprint and building heights would be changed. Two 22-story structures along Lakeside Drive and one 4-story structure along 17th Street are proposed.

City review of this alternative would require major conditional use permit review and design review. Building and demolition permits would also be required.

(b) Impacts

This alternative would also demolish the Venetia Apartment Building. The proposal is consistent with the goals and policies of the Oakland Comprehensive Plan. Its land uses and floor-area ratio are consistent with the zoning regulations. Site density will also be consistent if a use permit to increase the number of elderly dwelling units on-site is approved.

This alternative would provide a visual mitigation to the proposed project's bulk. By minimizing the height of the structures, more sunlight would be allowed into the central portion of the courtyards. View corridors to the City Hall and/or Tribune Tower would also be preserved. For residents of the

towers, views to Lake Merritt, particularly from Lakeside Drive North would be more open, and patrons of the Lake Merritt Hotel would have views over the low-rise housing along 17th Street or between the towers. However, the construction of two 22-story structures is a substantial alteration to the existing building scale and an increase over that proposed within the project.

(c) Mitigation

A potential mitigation for negative visual impacts associated with tall structures adjacent to Lake Merritt would be a reduction in building height. However, given the current density of the project, a reduction in building height would result in an increase in building bulk. Since the proposed density is only an 8% increase over that allowed without any density bonuses, and up to a 75% increase in density can be granted for senior units, it would appear that an evaluation of the impacts of height vs. bulk will be necessary rather than a reduction in density. Both the proposed project and this alternative are within the City of Oakland's standards for new construction within the Lakeside area, but the proposed project has more bulk because of its lower building height.

II. INTRODUCTION

The City of Oakland is the lead agency for this Environmental Impact Report. This report has been prepared in compliance with the California Environmental Quality Act of 1970 (CEQA) and is focused, pursuant to Section 15080 of CEQA, on those items identified as potentially significant in the City of Oakland's Initial Study of the proposed project (see Appendix A). The City Planning Department has determined that the project may have the following effects if constructed: 1) increased traffic; 2) increased energy demands; 3) increased ambient noise levels; 4) reduction in air quality; 5) an alteration to the existing micro-climate; 6) increased demands on city services; and 7) a substantial alteration in neighborhood density and character. The Air Quality Analysis was focused out of the EIR based on the Bay Area Air Quality Management District's draft EIR guidelines, which suggest a 2,000 vehicle trip per day threshold for detailed air quality impact studies. The proposed project would generate an estimated 1,400 daily vehicle trips.

The project sponsor, Neault & Associates, is proposing construction of a 458 unit residential structure. Existing off-street parking facilities will be relocated and the Venetia apartment building will be demolished in order to construct this residential facility. Minor modifications to the existing Lake Merritt Hotel will also be necessary. Of the total proposed 458 units,

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[1] Phone interview with Irwin Mussen, Bay Area Air Quality Management District, June 24, 1985.

300 units are to be senior housing rental units. Preliminary development objectives include two residential structures totaling approximately 345,046 square feet, one of which will contain 158 market-rate residential units and the other containing the 300 senior units. 308 private parking spaces are intended to serve this development.

This Draft EIR is intended to assist the City of Oakland and its citizens in reviewing the project's impact on the environment, in considering methods of mitigating any adverse impacts, and in evaluating any positive or negative features of potential alternatives to the project.

III. PROJECT DESCRIPTION

A. PROJECT SUMMARY

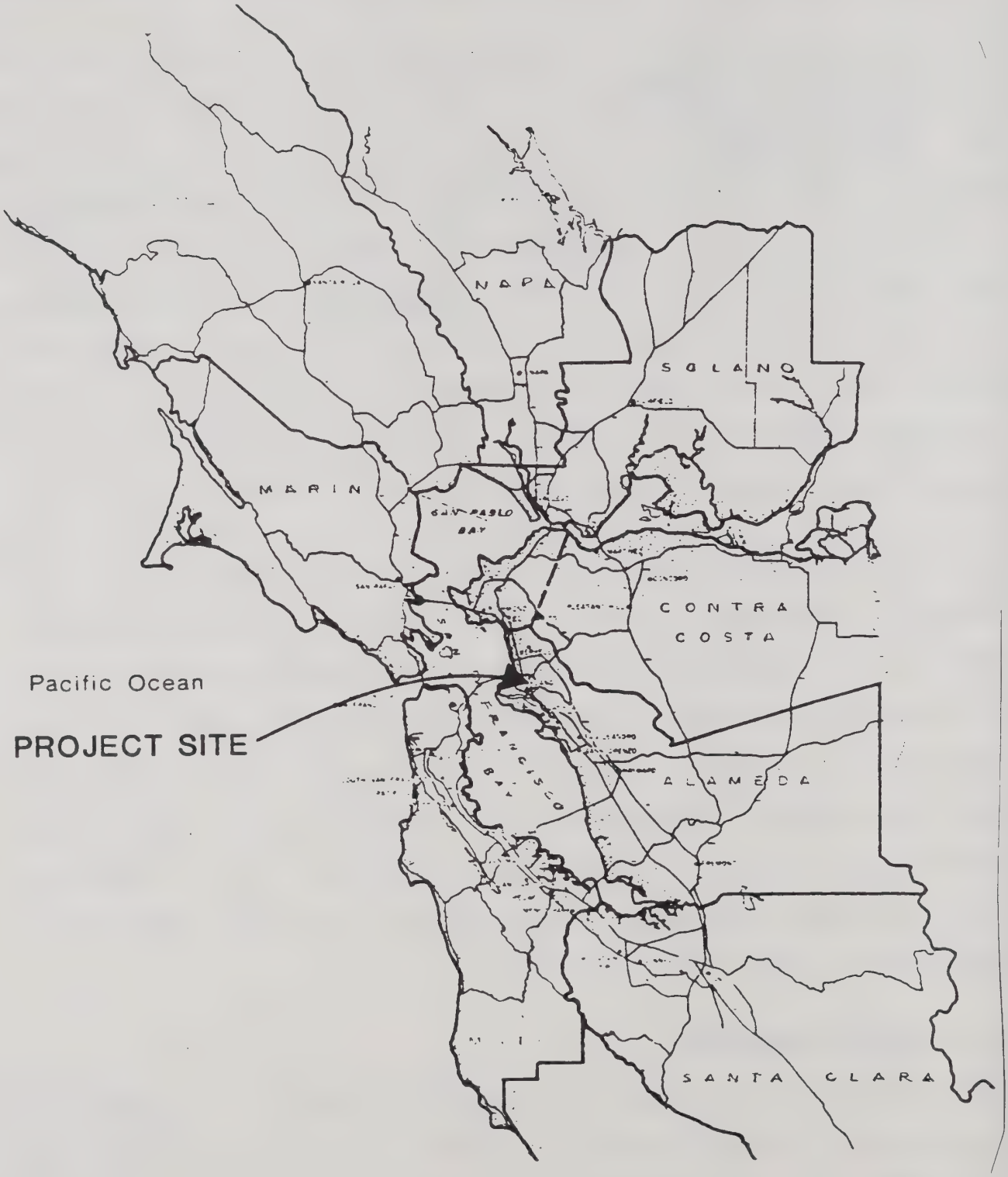
Neault and Associates are proposing construction of a two-tower residential structure containing 458 rental units (300 senior, 158 market rate) and a 308-space parking garage. A small amount of retail and accessory (recreational, dining, administrative) uses are proposed. This development is to be located in the Lakeside district of Oakland on the block bounded by Madison Street, 17th Street and Lakeside Drive.

The project site currently contains the Lake Merritt Hotel, the Venetia Apartment Building and some off-street parking facilities. Minor modifications to the Lake Merritt Hotel will be necessary in order to create the necessary space for the residential project. A total of 2,296 g.s.f. are to be removed from the Hotel's restaurant area. This will not affect the Hotel's residential facilities. Demolition of the Venetia Apartment building and elimination of all existing surface on-site parking spaces will also occur.

B. PROJECT LOCATION

The project site consists of one block located in the Lakeside district of Oakland bounded by 17th Street, Madison Street, and Lakeside Drive. See Figures 1 and 2.

The area of this block is approximately 55,000 g.s.f., of which 12,000 g.s.f. houses the Lake Merritt Hotel and Restaurant.



REGIONAL SITE LOCATION

N

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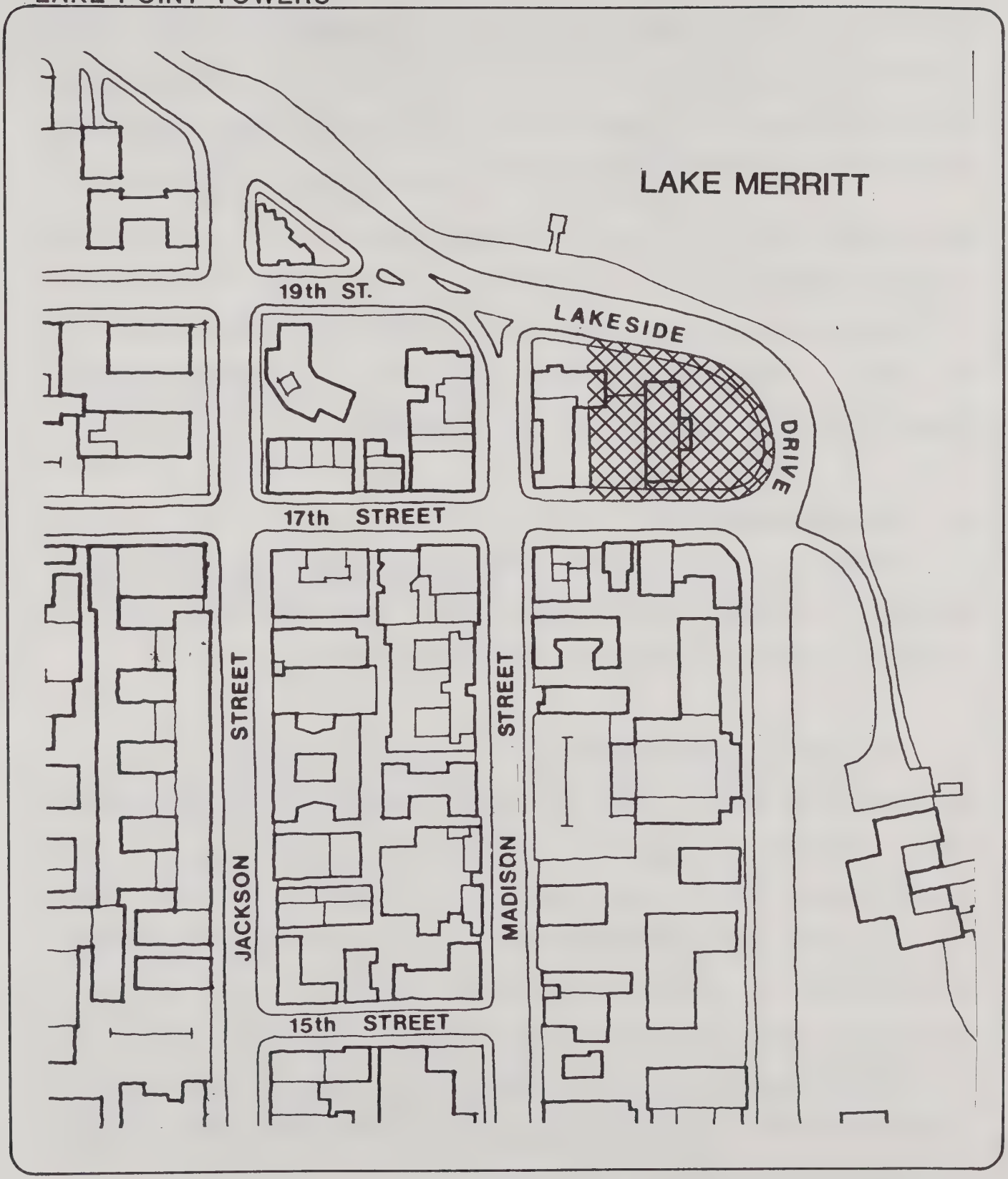
MILES

Figure 1

JEFFERSON ASSOCIATES INCORPORATED



PROJECT SITE LOCATION

Project Site

Figure 2

JEFFERSON ASSOCIATES INCORPORATED

The portion of the block proposed for development (43,Ø43 g.s.f.) is east of the Lake Merritt Hotel. It is currently used as off-street parking facilities for the Hotel and is the site of the 28-unit Venetia Apartment Building.

The project site is located in the Central District Area of Oakland between Lake Merritt and the downtown core. It is close to the Kaiser Center and Lake Merritt office building center to the north, the downtown core to the west, and the Oakland Art Museum and civic buildings to the southwest.

C. PROJECT OBJECTIVES

The objectives of the project sponsor are to provide a variety of available housing types close to the downtown area, and to realize a financial return on the rental of the units.

D. SITE AND BUILDING PLANS

The following project description and project plans are preliminary and will be subject to change as required by the City through their Zoning and Design Review Process, and as a result of mitigation measures contained in this EIR. The basic project description, as presently proposed, calls for two residential structures containing 3ØØ senior units and 158 market-rate units, a two- and three-level subterranean parking garage, and a second-floor lobby area containing building administrative or support office space and dining facilities.

Components of the proposed project are as follows:

I. Residential

300 senior rental units @ 100 g.s.f./unit	=	30,000 g.s.f.
158 market-rate rental units @ 150 g.s.f./unit	=	23,700 g.s.f.
Total	=	53,700 g.s.f.

II. Accessory Uses (Second Floor Lobby Area)

Recreation/Lounge	=	5,752 g.s.f.
Cafeteria/Kitchen	=	6,120 g.s.f.
Administrative or Support Office Space	=	7,892 g.s.f.
Retail	=	1,022 g.s.f.

III. Open Space[1]

Group (terraces & roof gardens)	=	30,859 g.s.f.
Private (balconies)	=	14,290 g.s.f.

IV. Parking

Parking is proposed both at-grade and below. A total of 308 spaces are indicated. The City of Oakland's off-street parking and loading requirements applicable to this project are as follows:

Senior housing units	=	one space per unit[2]
Market-rate housing	=	one space per unit

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[1] For the purposes of calculating the conformances of this open space allotment to that required by the zoning ordinance, private open space is calculated at 2x the public amount. Therefore the total amount to be applied toward the required 53,700 g.s.f. of open space would be:

2 x 14,290 = 28,380 + 30,859 = 59,239 g.s.f.

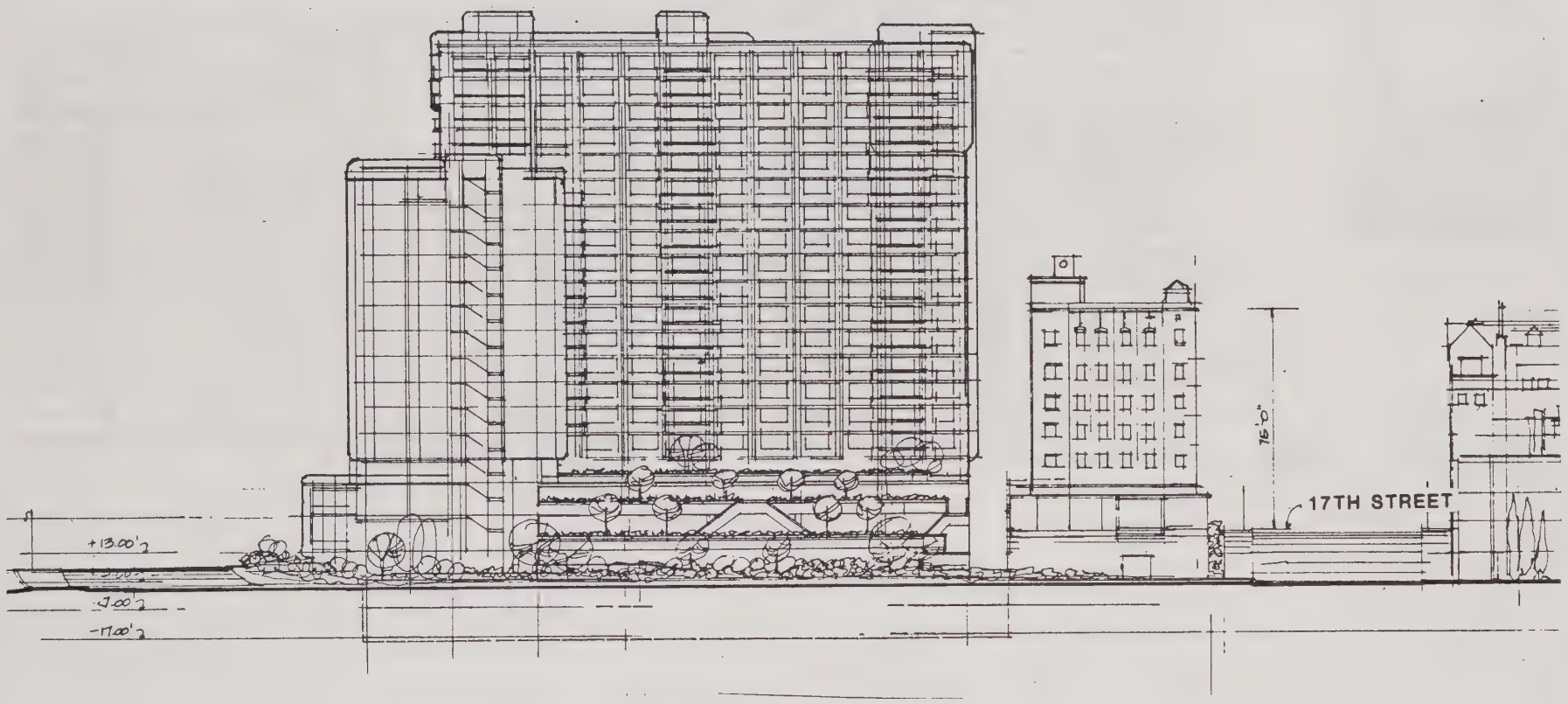
[2] Section 7519 of the zoning ordinance allows a discretionary reduction in parking spaces for senior housing of up to 75% upon the granting of a conditional use permit.

The plans, elevations and section drawings provide the proposed visual scheme for the components of the project. Their layout and design create a substantial change to the existing visual character of the site and surrounding area. A description of these drawings, relative to the components of the project, follows:

I. Residential

The Lake Point Towers residential project would consist of an L-shaped 18- and 14-story complex along 17th Street and Lakeside Drive adjacent to the Lake Merritt Hotel. The elevations indicate the proposed appearance of these structures and their relationship in terms of scale to adjacent existing buildings (see Figures 3, 4, 5, and 6).

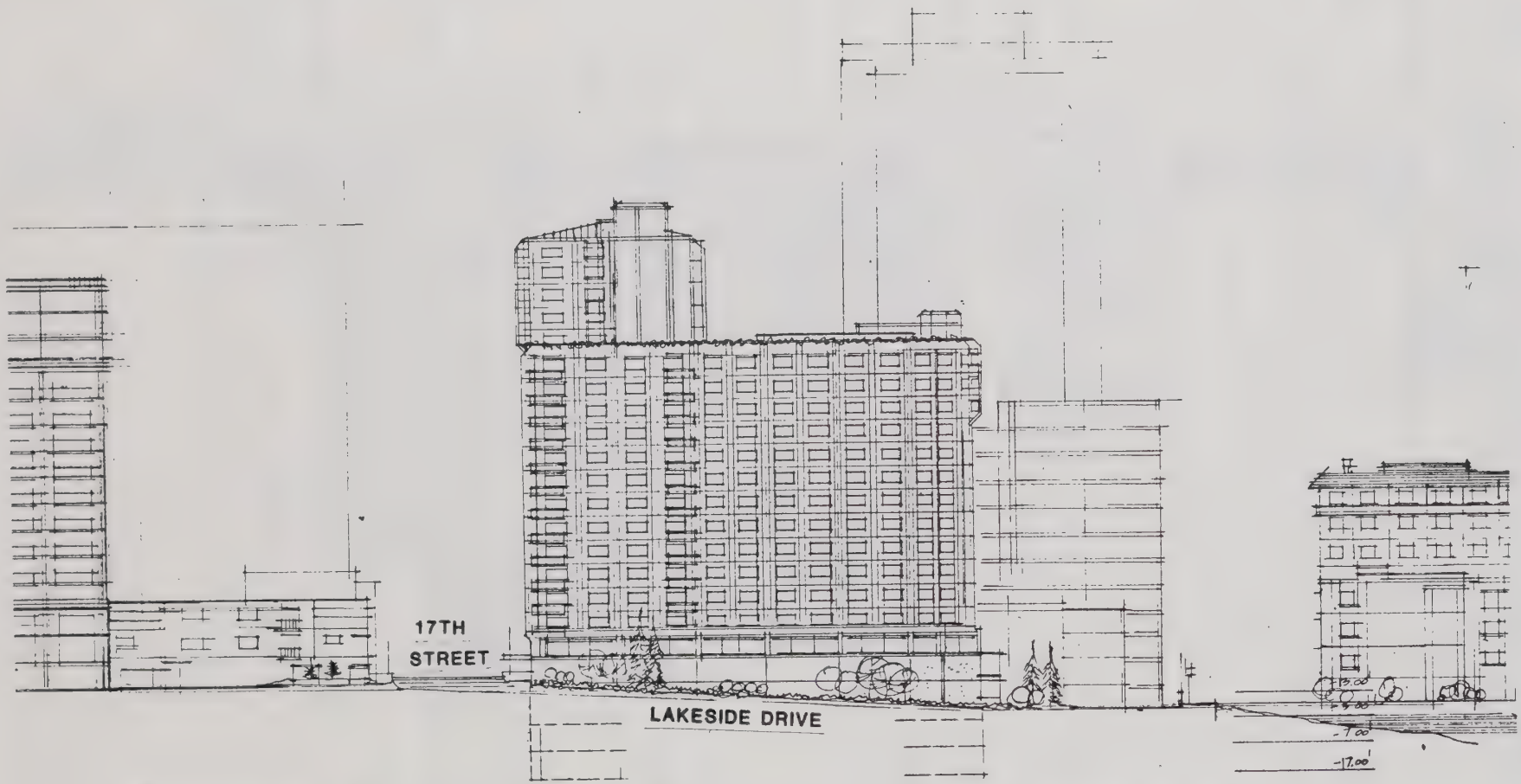
Two residential structures are proposed, the tallest building being located along 17th Street. Its total building height above the 17th Street grade, including the upper and lower lobbies, will be approximately 172'-0". This structure will contain the 158 market-rate units (see Figure 7). Senior housing is to be constructed within the second structure located along Lakeside Drive. The total building height for this structure from the 17th Street grade, including the upper and lower lobbies, will be approximately 128'-0". From Lakeside Drive, the building height will be approximately 138'-0" (see Figure 8).



NORTH ELEVATION

SOURCE: ED SUE AIA ASSOCIATES

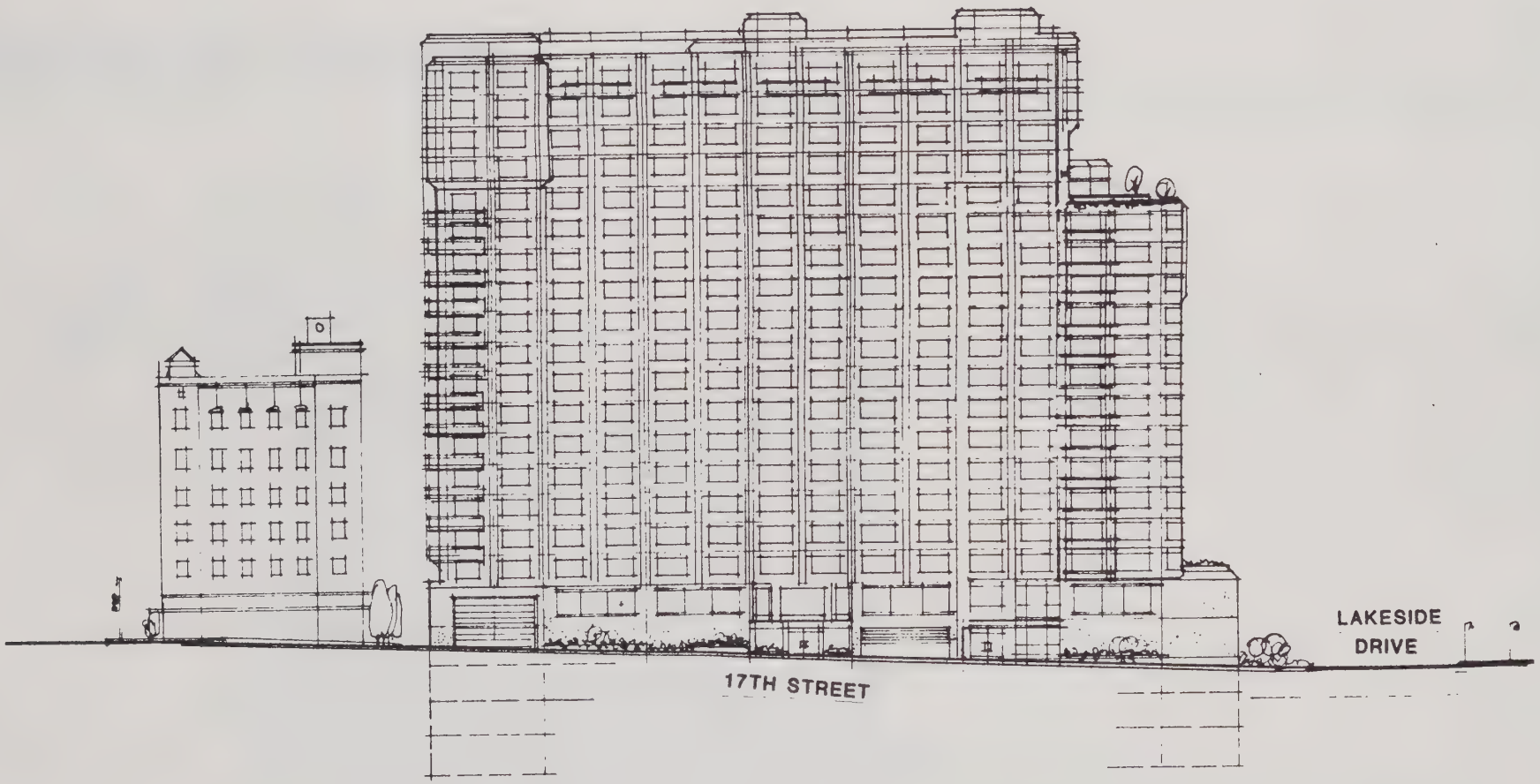
Figure 3



EAST ELEVATION

Figure 4

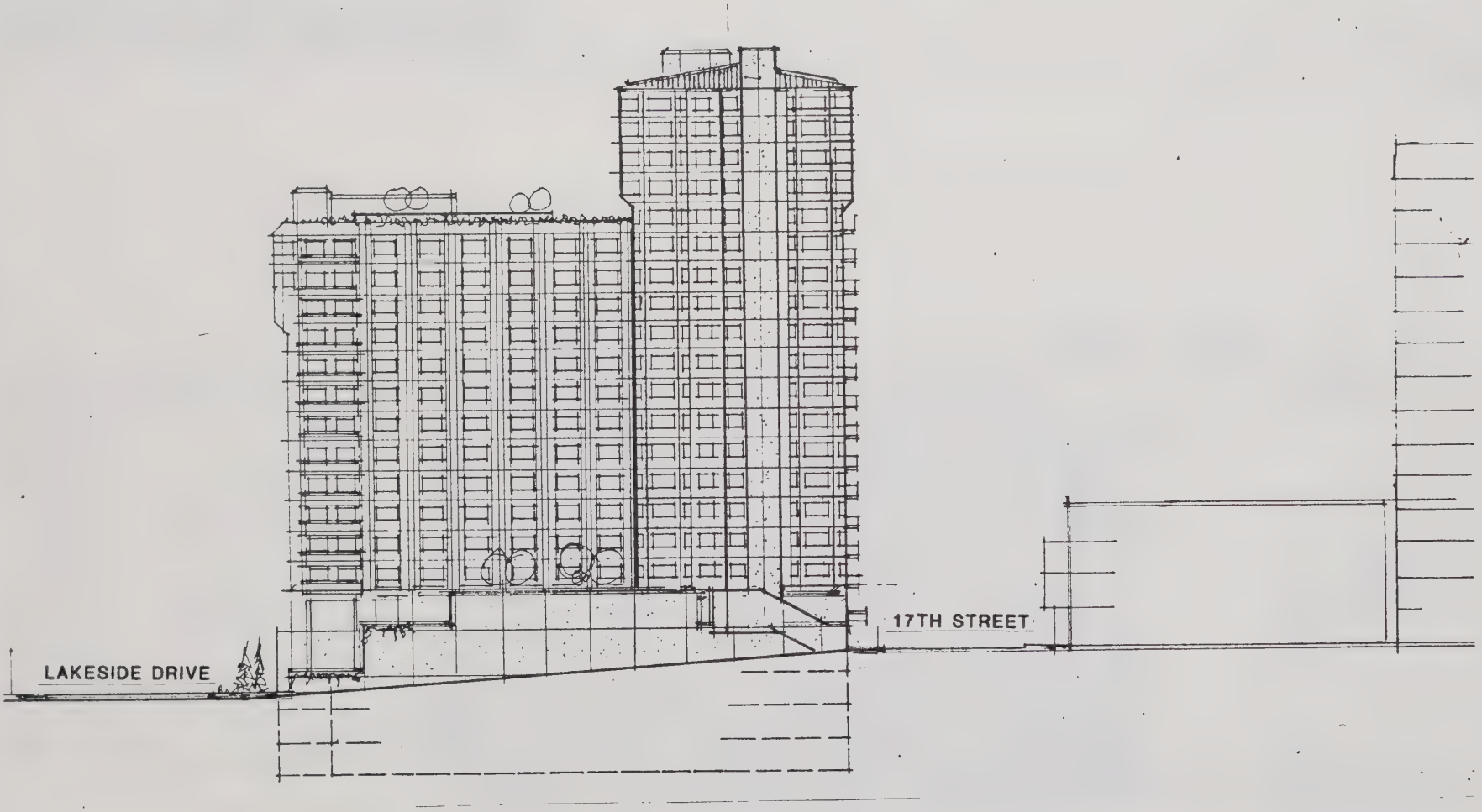
SOURCE: ED SUE AIA ASSOCIATES



SOUTH ELEVATION

SOURCE: ED SUE AIA ASSOCIATES

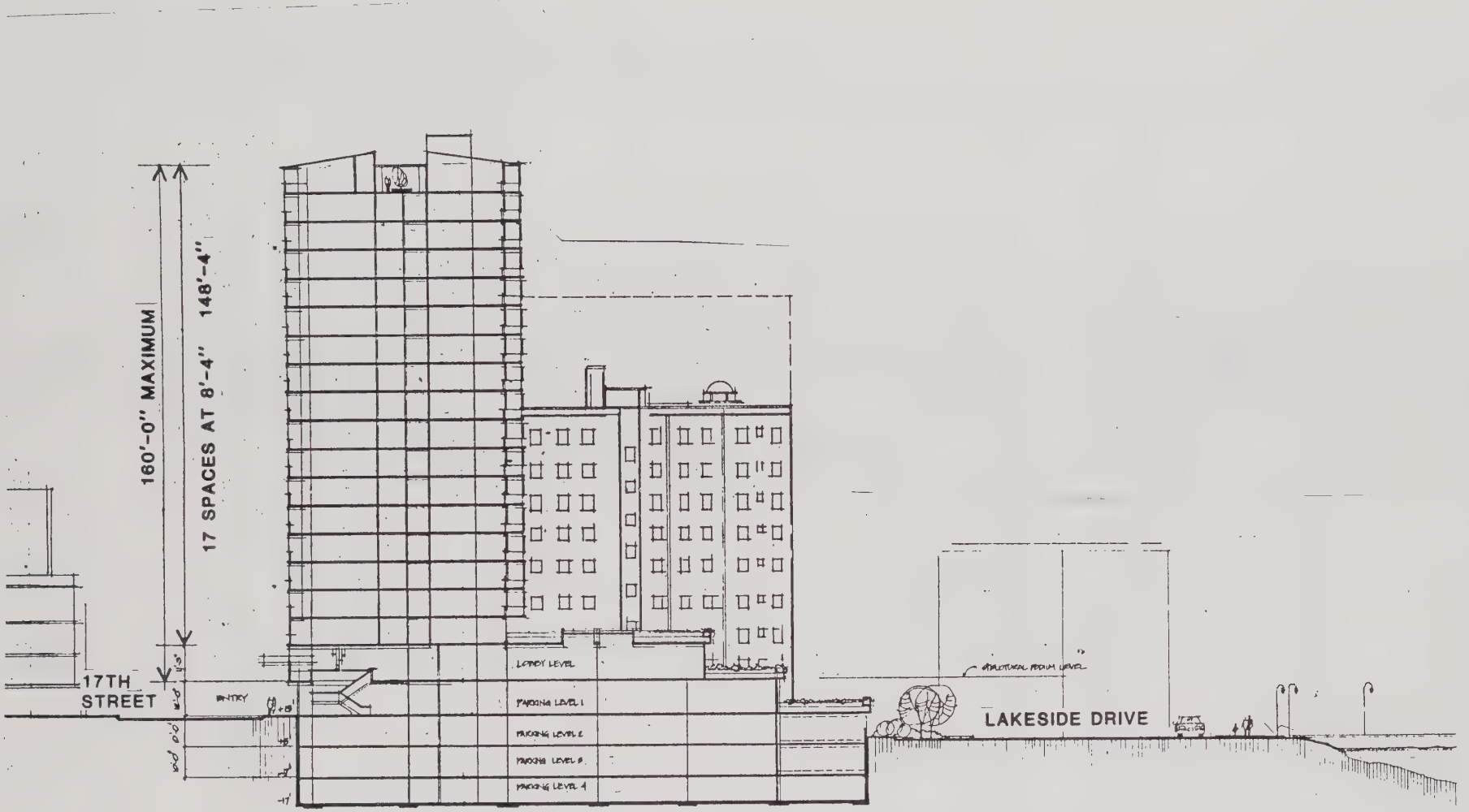
Figure 5



WEST ELEVATION

SOURCE: ED SUE AIA ASSOCIATES

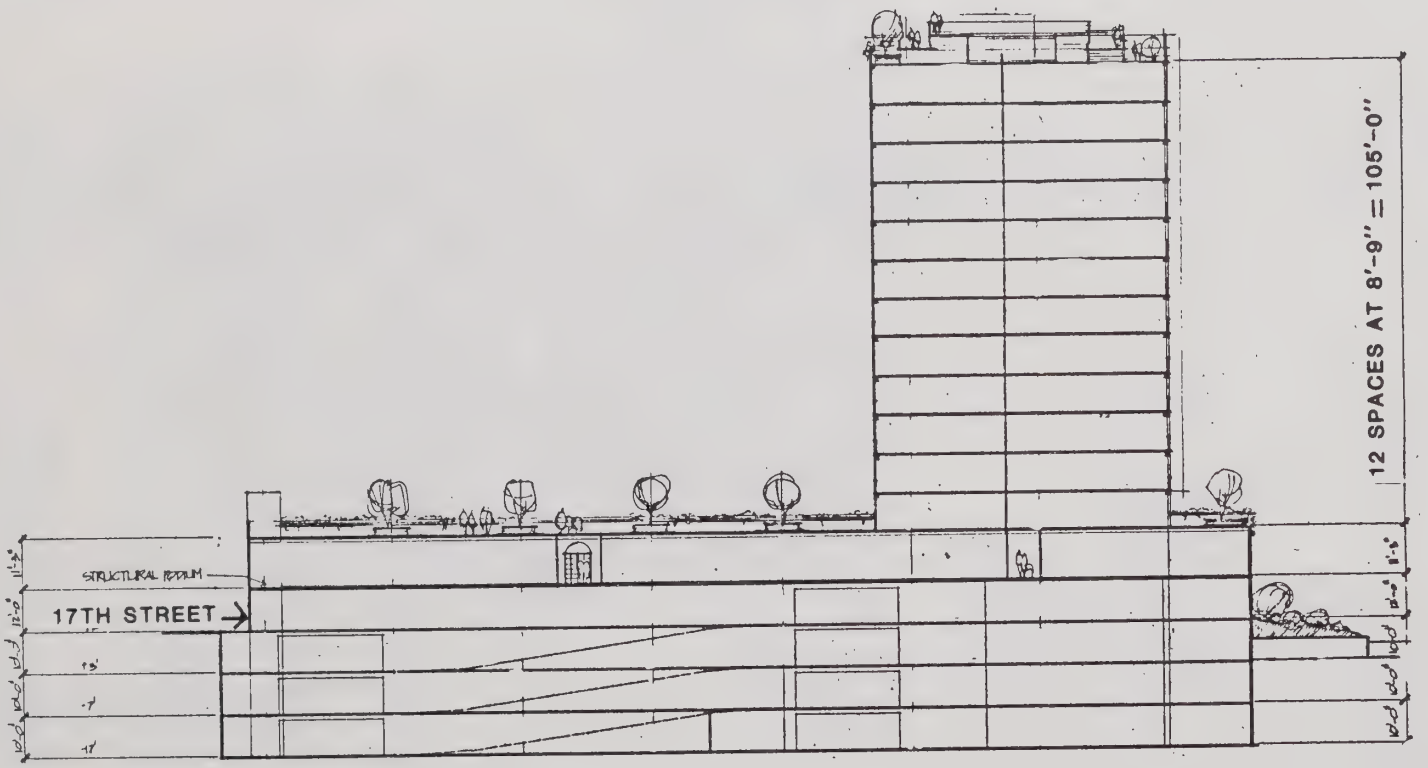
Figure 6



SECTION LOOKING WEST

Figure 7

SOURCE: ED SUE AIA ASSOCIATES



SECTION LOOKING NORTH

SOURCE: ED SUE AIA ASSOCIATES

Figure 8

Typical floor plans indicate 25 senior units and nine market-rate apartments per floor for Floors three through fourteen (see Figure 9). The roof of the senior residential structure contains a swimming pool and small garden. Adjacent to this structure the market-rate residential structure continues up another four floors. Eleven apartments per floor are shown for floors fifteen through eighteen (see Figure 10). The nineteenth floor contains six large apartments and outdoor planted areas (see Figure 11).

No separation of the market-rate and senior residential units has been shown on the floor plan. The architectural firm has indicated, however, that a separating wall will be constructed.[1] Although the exterior building materials and color range have not been called-out on the drawings, the architectural firm has stated that lightweight perlite fiber-reinforced plaster wall panels in a sand stucco finish will be used for the exterior treatment.

The main pedestrian entrances to the residential structures are located along 17th Street (see figure 13). There are two entrances bisected by the vehicular entry driveway to the parking garage. The north Lakeside Drive area is fronted by a small landscaped courtyard and parking ramp. There are no vehicle entry points along Lakeside Drive, but there is a stairway to the central terraces indicated from Lakeside Drive.

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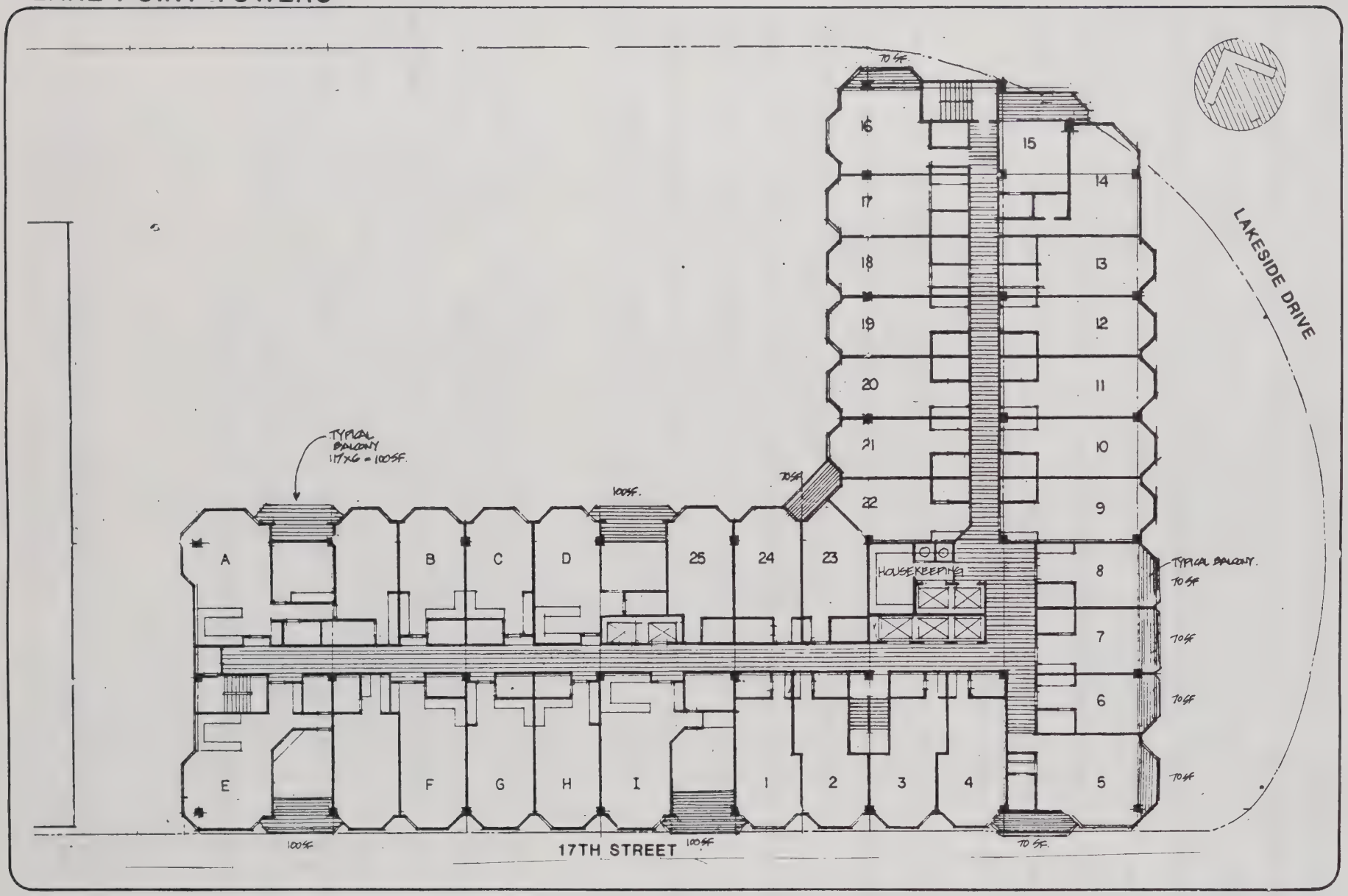
1 Phone conversation with John Fong, Ed Sue AIA Associates, March 15, 1985.



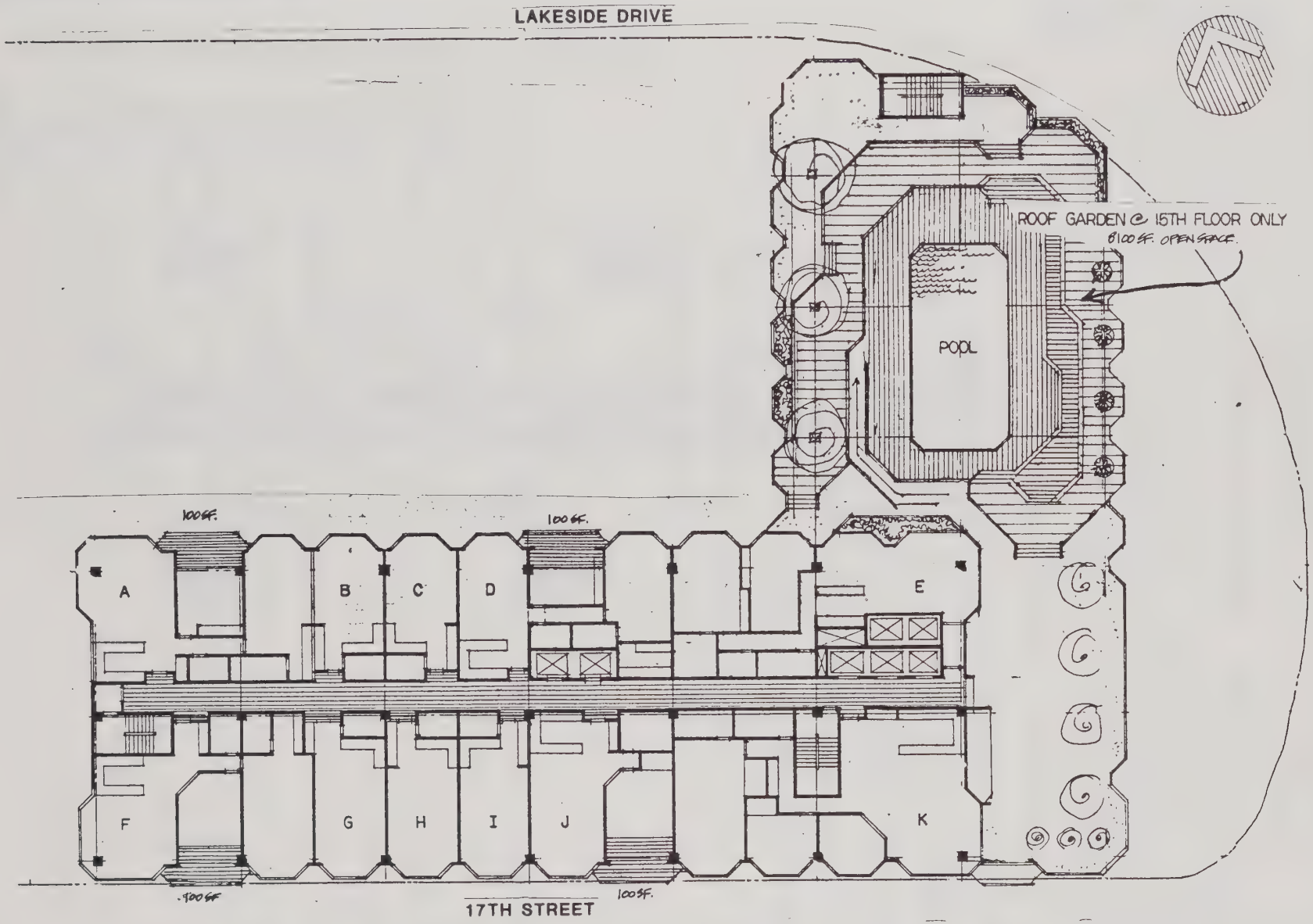
TYPICAL FLOOR PLAN (3 thru 14)

NUMBERS REPRESENT SENIOR UNITS

LETTERS REPRESENT MARKET-RATE UNITS

SOURCE: ED SUE AIA ASSOCIATES

Figure 9

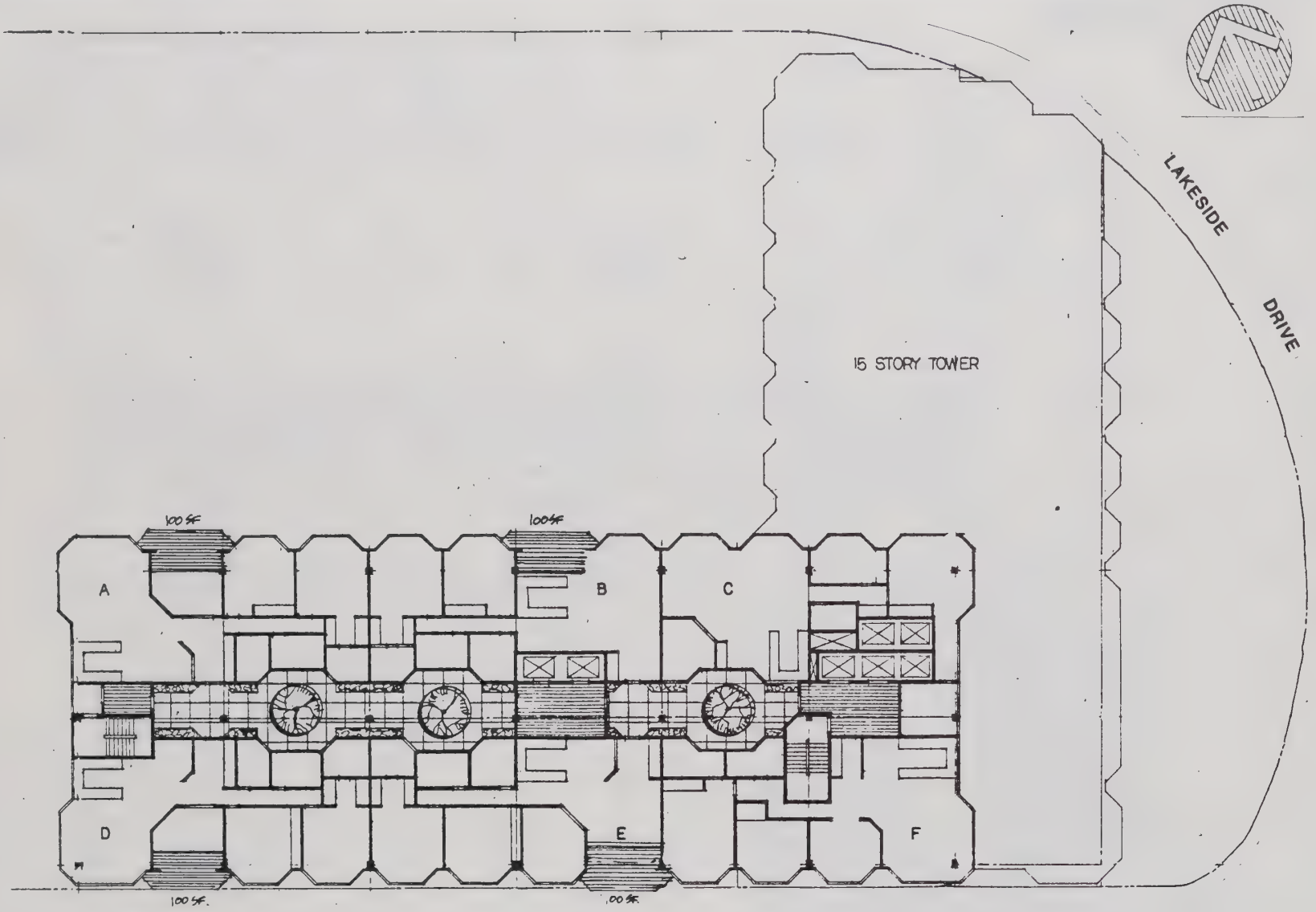


TYPICAL FLOOR PLAN (15 thru 18)

NUMBERS REPRESENT SENIOR UNITS
LETTERS REPRESENT MARKET-RATE UNITS

SOURCE: ED SUE AIA ASSOCIATES

Figure 10



19TH FLOOR PLAN

LETTERS REPRESENT MARKET-RATE UNITS

SOURCE: ED SUE AIA ASSOCIATES

Figure 11

II. Residential Serving Uses

Both buildings have been designed with first and second lobby levels over which the residential units are located. The First Floor Lobby area is separated into two pedestrian entry areas. One entry area is for the market-rate housing habitants, while the other is for the senior housing habitants. The vehicular entrance to the parking garage is located between the two pedestrian entry areas (see Figure 13). The Second Floor Lobby Area contains recreation rooms, a kitchen and senior eating area, administrative and/or support office space, the service dock, two small shops, and reception/lounge areas. Square footages and the general location for each use have been designated on the floor plan (see Figure 12).

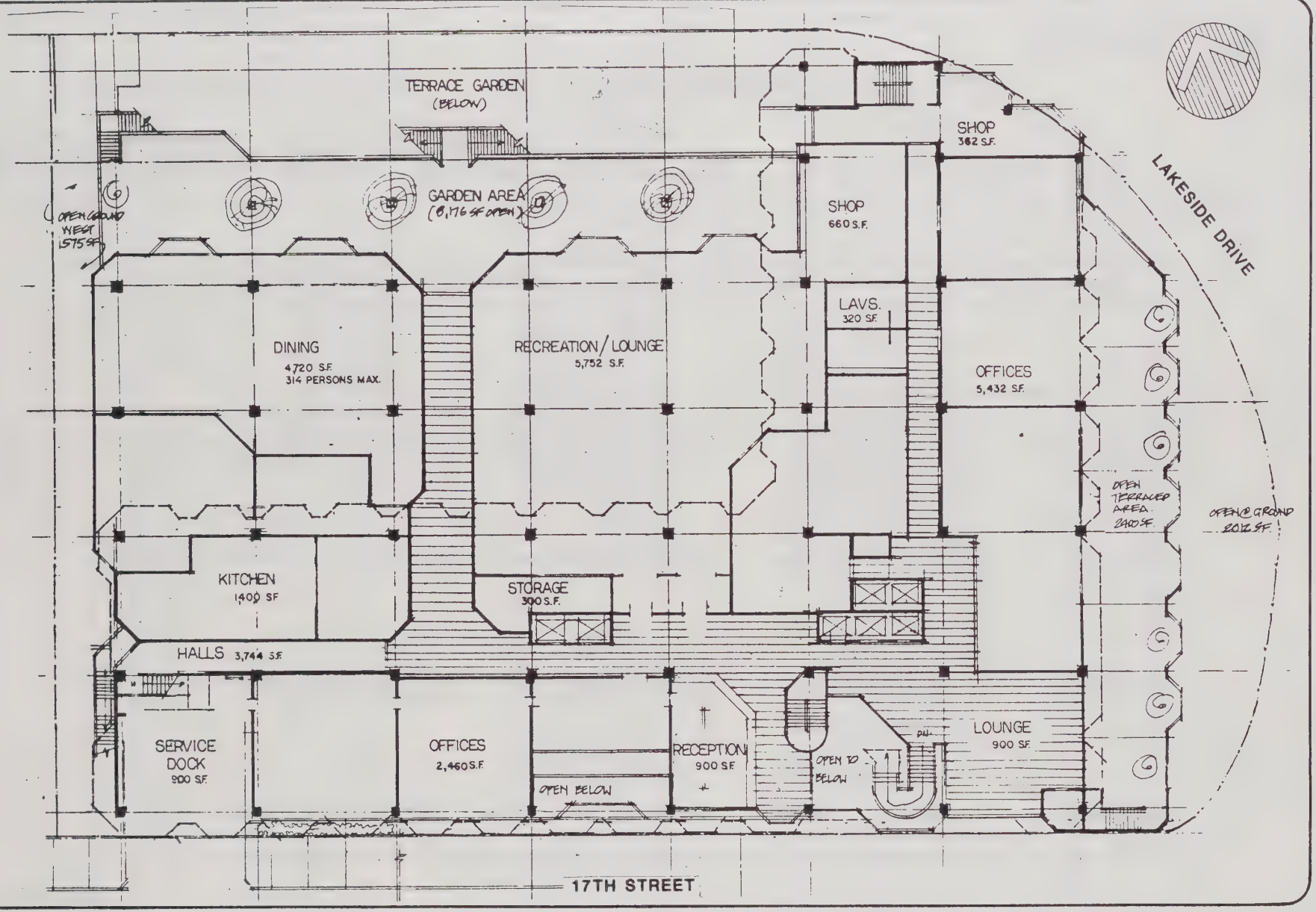
III. Parking

Because of the slope of the lot and the high watertable, proposed parking is to consist of two levels of subterranean parking along Lakeside Drive (the lowest portion of the lot) and three levels of subterranean parking along the 17th Street frontage where the lower watertable will permit deeper excavation (see Figure 7). The parking layout has been designed with 90° stalls. Parking garage design and layout are indicated in Figures 13, 13A, and 14. The ramp to the subterranean parking levels has been located towards the north side of the garage, under the terrace garden. The entrance to the parking garage is located mid-block on 17th Street.

Applying City-designated parking standards to the proposed project results in the following required parking:

Senior Rental Housing (300 units)	=	300 parking spaces required
Market-Rate Rental Housing (158 units)	=	158 parking spaces required
TOTAL	=	458 parking spaces required

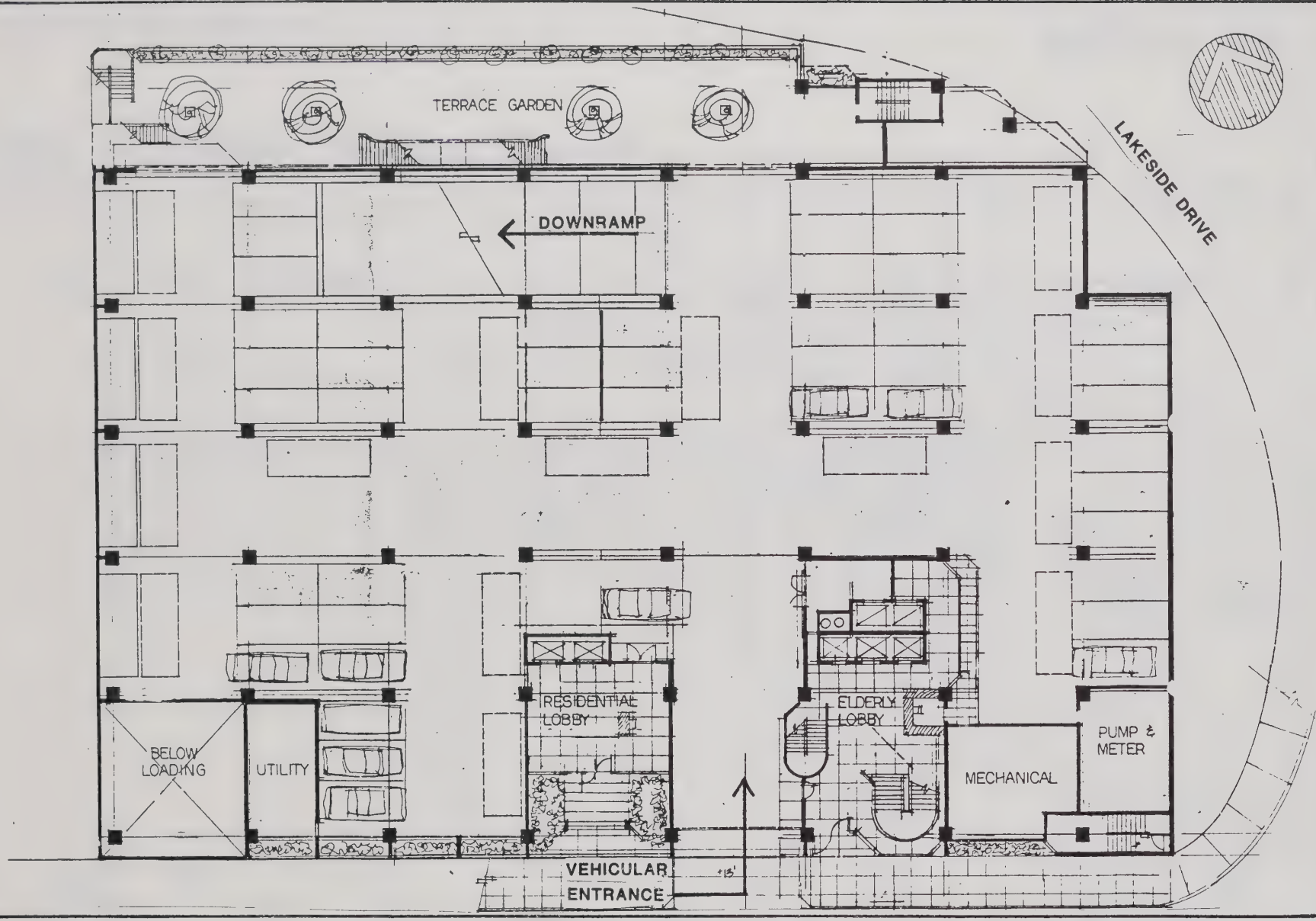
The 308 parking spaces proposed within the project are less than the number required by the City of Oakland. However, a reduction of up to 75% in required parking for senior citizen housing may be granted through the City's use permit process. The proposed senior parking (143 spaces) represents a reduction of 46% from that required by the zoning. Seven parking spaces are designated for use by the Lake Merritt Hotel patrons, since the on-site parking under the hotel contains only 26 spaces. City requirements (.75 spaces per hotel room) necessitate 33 spaces for the hotel's 44 rooms.



2ND FLOOR LOBBY LEVEL

SOURCE: ED SUE AIA ASSOCIATES

Figure 12



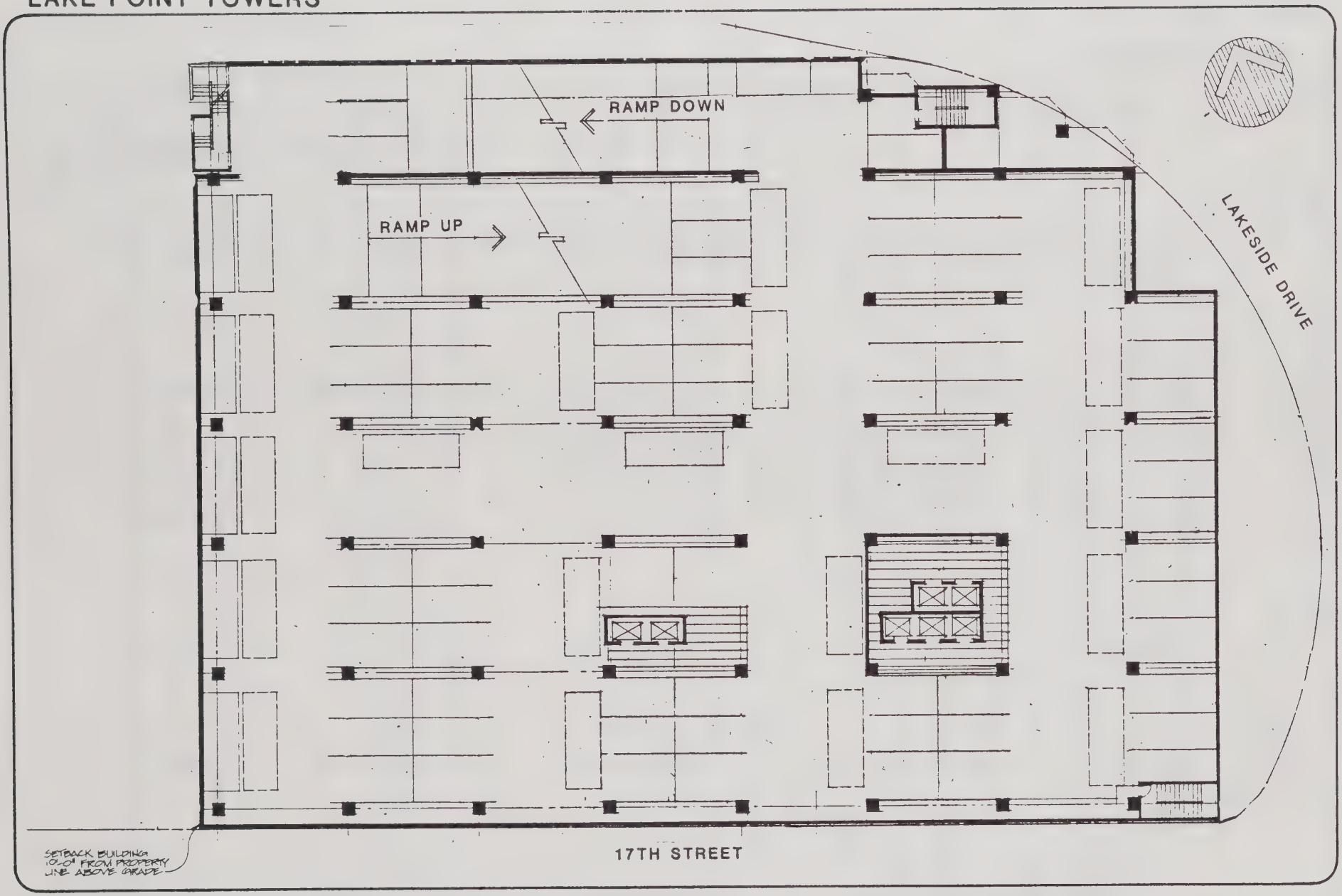
BASEMENT PARKING LEVEL 1

RESIDENT PARKING SPACES = 51

TANDEM PARKING SPACES = 15
(HOTEL OPTION ONLY)

SOURCE: ED SUE AIA ASSOCIATES

Figure 13



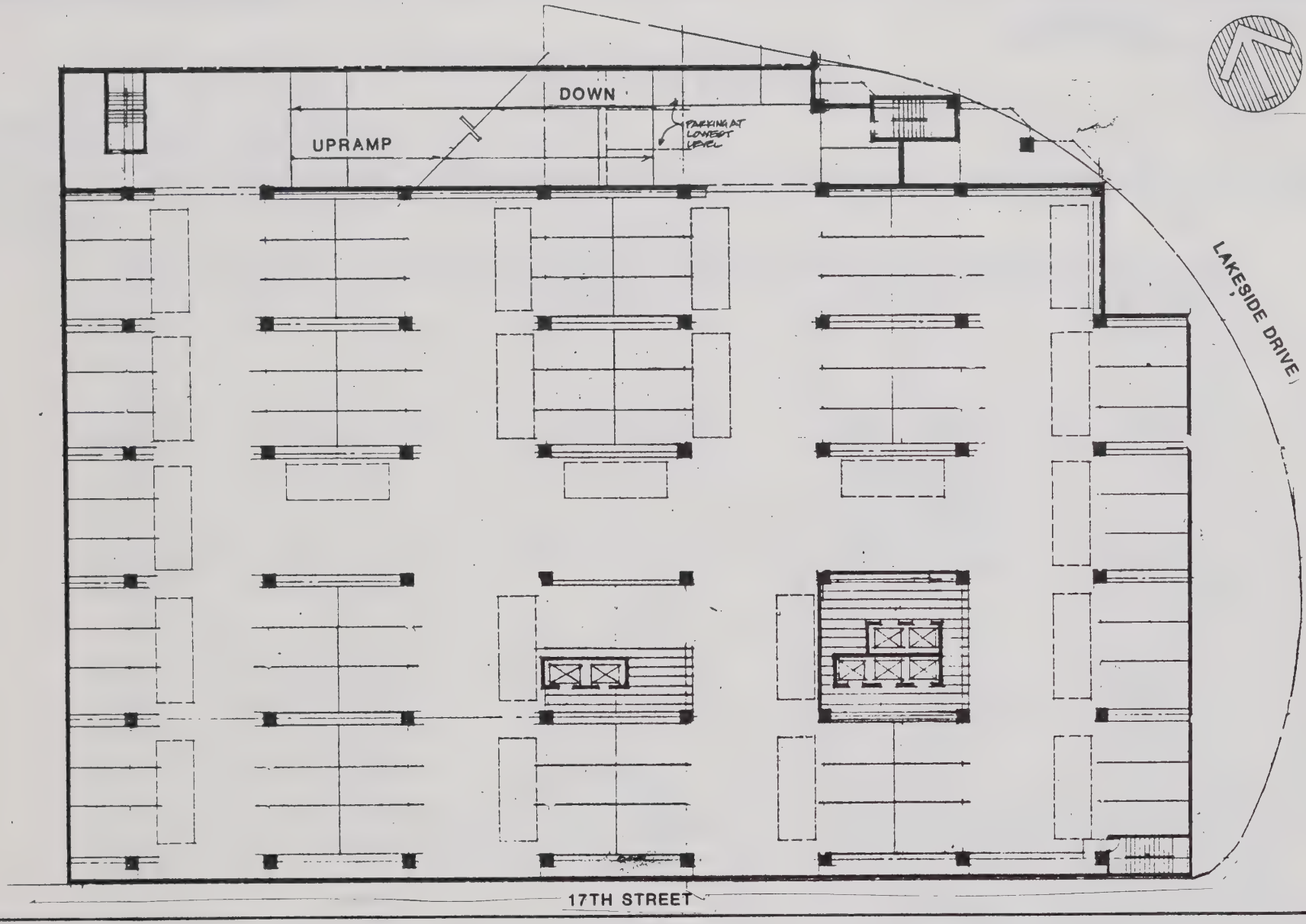
PARKING LEVEL 2

RESIDENT PARKING SPACES = 74

TANDEM PARKING SPACES = 20
(HOTEL OPTION ONLY)

SOURCE: ED SUE AIA ASSOCIATES

FIGURE 13A



PARKING LEVELS 3–4

3RD LEVEL = 90 PARKING SPACES
4TH LEVEL = 93 PARKING SPACES

TANDEM PARKING SPACES = 21 SPACES PER FLOOR
(HOTEL OPTION ONLY)

SOURCE: ED SUE AIA ASSOCIATES

Figure 14

IV. ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION

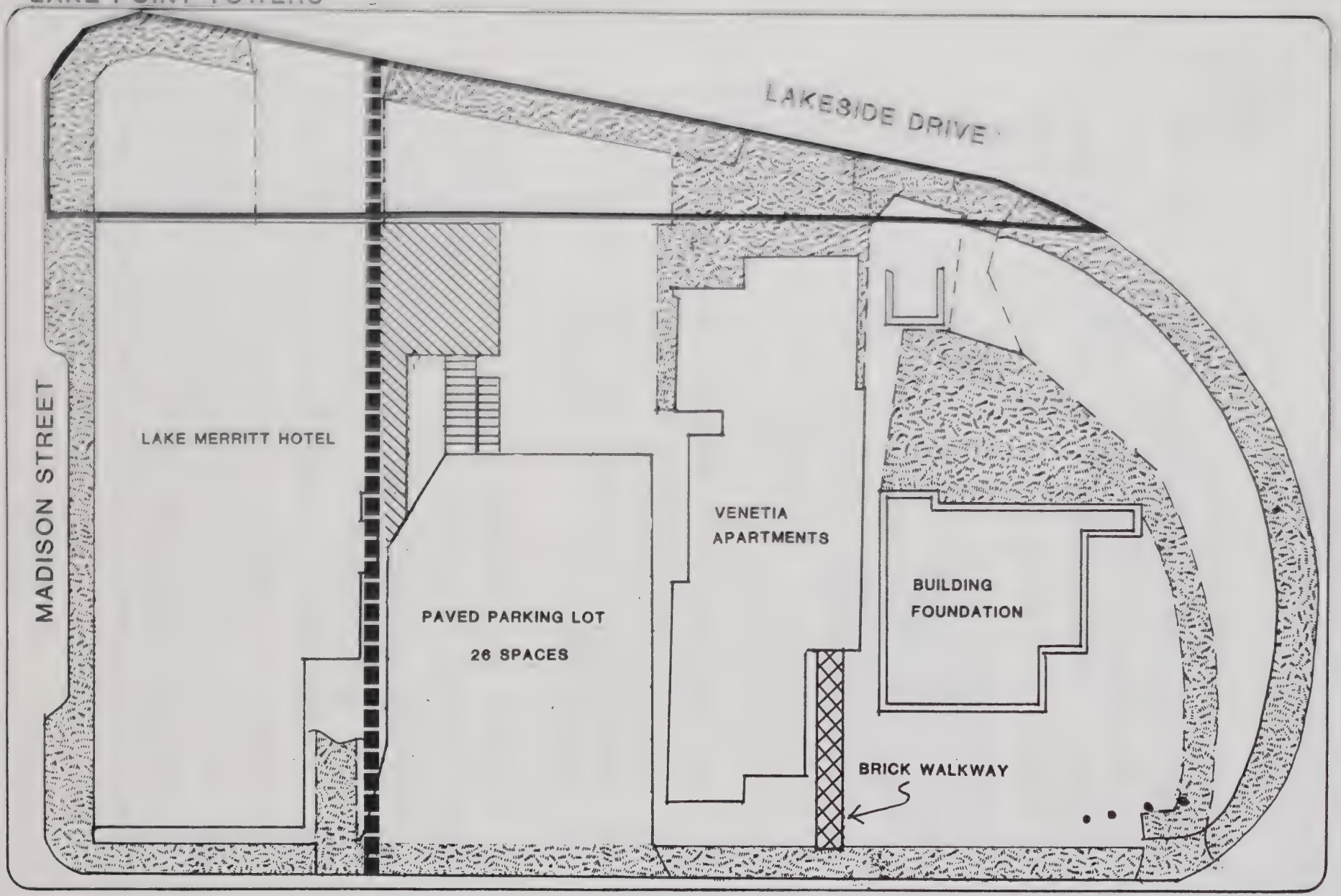
A. LAND USE AND RELATIONSHIP TO PLANS

1. SETTING

a. Existing Project Site Land Use

The proposed development is to be located adjacent to the Lake Merritt Hotel and Restaurant. This site currently contains the Venetia Apartments, parking areas used by the apartment residents, and a paved surface parking lot serving the Lake Merritt Hotel. Streets bordering the site are Lakeside Drive, Madison Street, and 17th Street. The northern triangular portion of the property belongs to the City of Oakland and is dedicated to park or street beautification. The proposed project's buildings do not encroach into this area. Landscaping is proposed and would be performed in coordination with the City's Park Service Department in order to ensure that appropriate plant species are selected for the area. Figure 15 shows the site's existing land uses, the proposed new property line, and area of the Lake Merritt Hotel to be removed.

The Lake Merritt Hotel and Restaurant is a six-story, reinforced concrete structure containing 44 hotel suites. It was built in 1927 as the Madison-Lake Apartments, a residence hotel which contained a barber shop, beauty parlor, drug store, and novelty shops as well as apartments. A dining room was added in 1934. This dining room is now a restaurant with seating for 120 people. Located under the hotel and restaurant structure is a currently unused parking area with spaces for 26 automobiles. Parking for the hotel patrons is currently supplied by the adjacent 26 space



EXISTING LAND USES ON-SITE

PROPOSED LOT LINE

AREA OF HOTEL TO BE REMOVED

AREA DEDICATED TO PARK OR STREET BEAUTIFICATION

Figure 15

paved parking lot. Restaurant patrons use the on-street parking facilities.

The Venetia Apartment Building is a three-story stucco and wood frame structure containing 28 apartments. It was constructed around 1912 or 1913 and bordered the waterfront before the street was filled in at the lake's edge.[1] On-site parking facilities for the residents of this building total 22 spaces, of which seven are marked spaces located within a paved area fronting Lakeside Drive (four spaces under the structure and three adjacent to the structure), and approximately six spaces are situated on a vacant, unpaved area also fronting Lakeside Drive. An unmarked, unpaved area at the western end of the site furnishes a maximum of nine automotive spaces. There are two entry and exit points for this parking, both along Lakeside Drive.

The project will require the demolition of the Venetia Apartment building. The on-site parking facilities will be relocated under the Lake Merritt Hotel. Because a portion of the Lake Merritt Hotel encroaches onto the proposed adjoining lot, a 2,296 square foot alteration is proposed in order to adjust the hotel boundaries to be within its new lot lines. This alteration is to occur within the restaurant area along the eastern boundary of the hotel and will not affect any of the hotel's residential uses.

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1 Oakland Cultural Heritage Evaluation Comment Sheet, Oakland City Planning Dept., for Venetia Apartments, 116 - 17th Avenue, 1983.

b. Surrounding Land Uses

The project site is located along the northeastern boundary of the Lakeside Area as indicated in the Oakland Central District Plan (see Figure 16). During the 19th century, the Lakeside neighborhood was one of Oakland's most exclusive single family residential areas. Many of the houses were of mansion proportions, some with grounds occupying entire blocks, often embellished with glass conservatories, canary houses, and fountains. Houses along the lakefront frequently had private boathouses. Impetus for much of this development was Dr. Samuel Merritt, physician, Oakland Mayor, creator of Lake Merritt, and real estate developer, whose Merritt Tract occupied a substantial portion of the neighborhood and whose 'villa' occupied the entire block bounded by 14th, 15th, Madison and Jackson Streets. Dr. Merritt subsequently subdivided his tract.[2]

In the 1920's, a trend towards more dense development began. Structures built during this time that are still existing are the Lake Merritt Hotel (1927), the Scottish Rite Temple at 1447 Lakeside Drive (1926-1927), and the Tudor Hall Apartments (1929) at 150 17th Street, which is across the street from the Lake Merritt Hotel. The buildings, while offering multi-family housing, still maintain the general low- to medium-rise nature that was characteristic of the area at the time.

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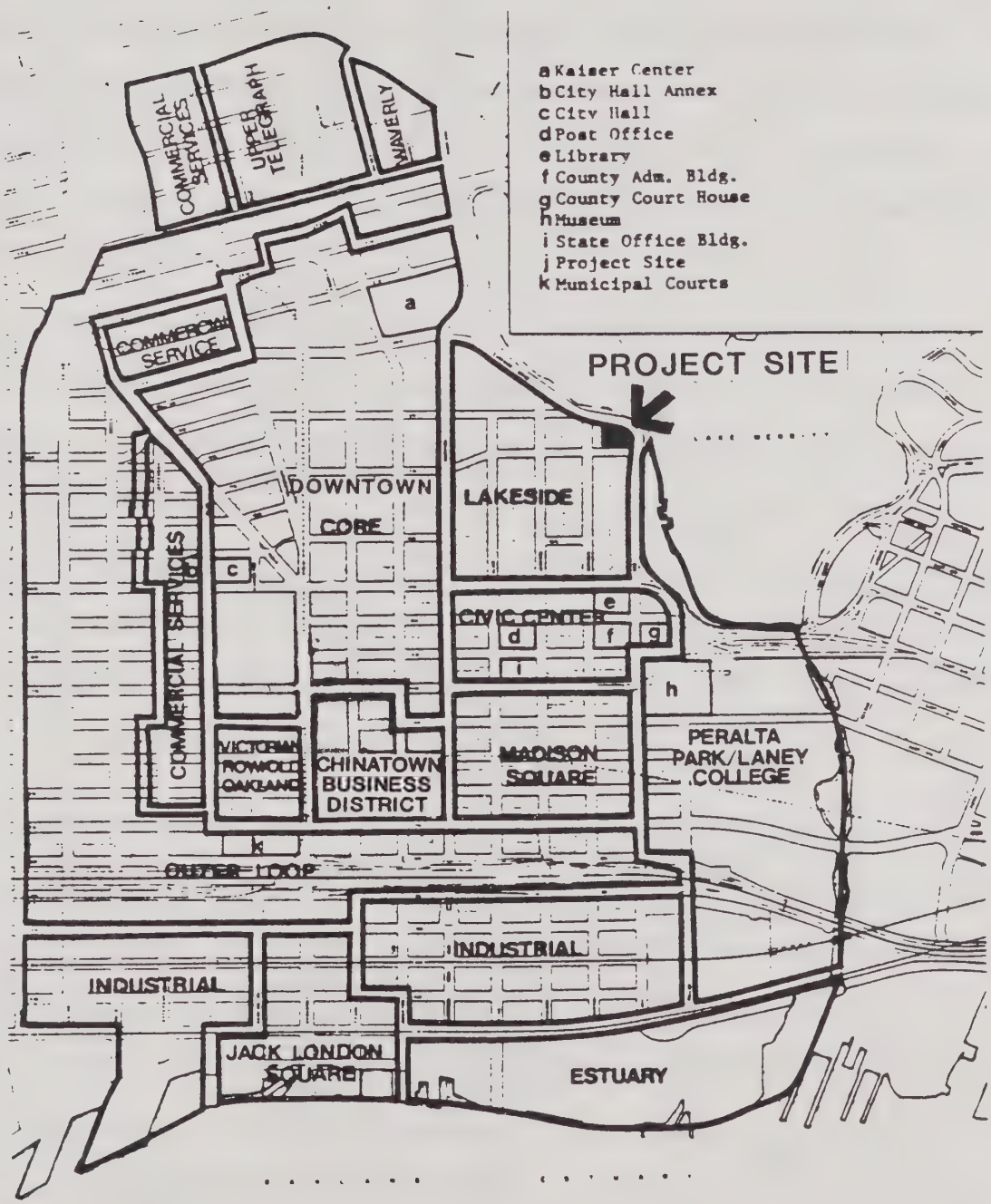
[2] State Historic Resources Inventory Form for the Lakeside Apartment Complex, April 30, 1983, Oakland Cultural Heritage Survey, Oakland City Planning Department, pp. 2-9.



OAKLAND CENTRAL DISTRICT

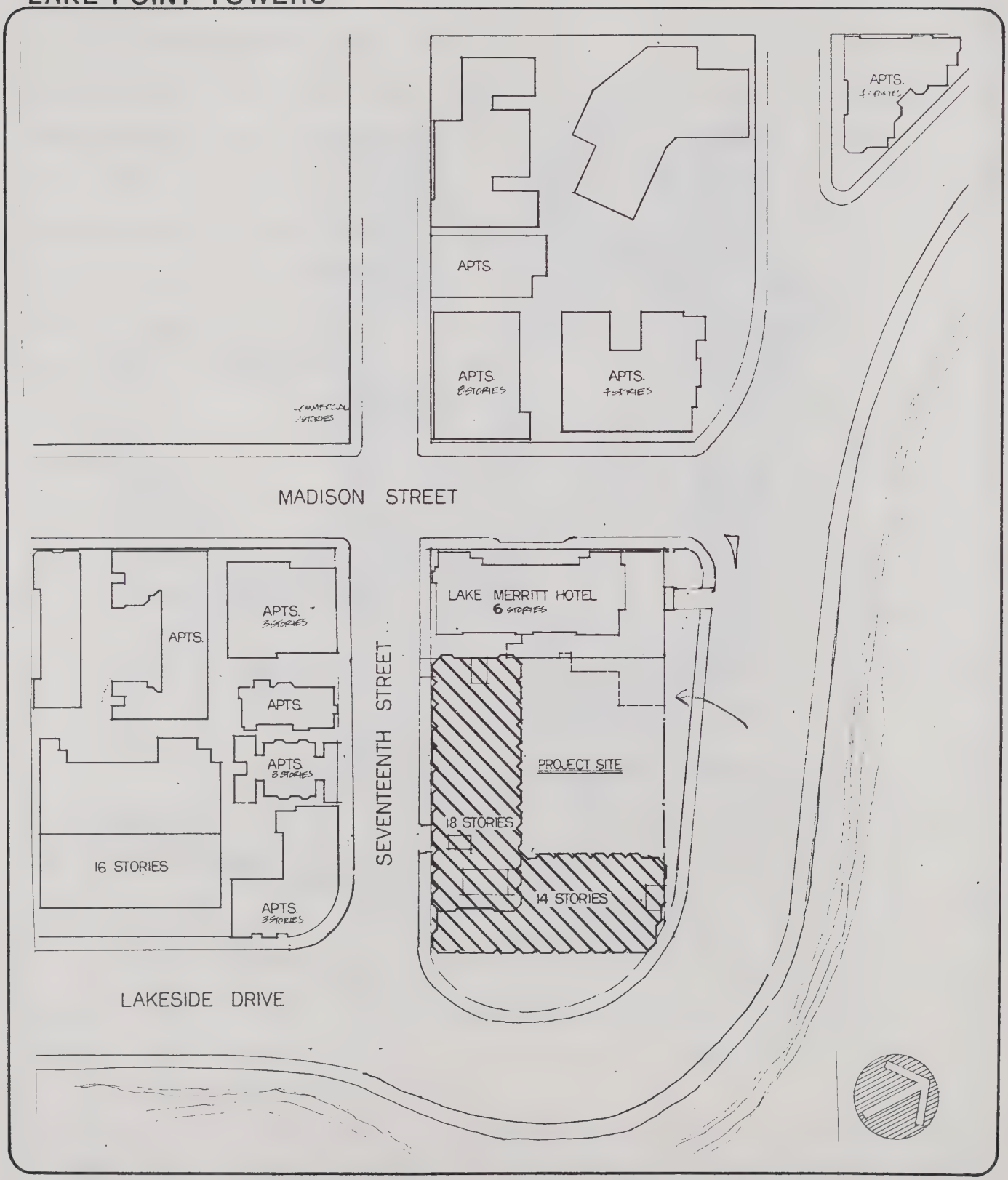
N

0 500 1000
FEET

SOURCE: Oakland City Planning Department

Figure 16

JEFFERSON ASSOCIATES INCORPORATED



PROJECT SITE AND VICINITY

proposed building footprints

SOURCE: ED SUE AIA ASSOCIATES

Figure 17

JEFFERSON ASSOCIATES INCORPORATED

During the 1950's, a wave of apartment construction began which continued through the sixties. These structures tended to be more high-rise. Examples of this period are the 174-unit Jackson Lake Apartments; the 12-story, 55-unit Lake Royal Apartments at 19th and Jackson; and the 260-unit Lake Park Retirement Residence at 17th and Alice Streets.

The evolution of this area from single family estates to high-density multiple family residential has resulted in a variety of architectural styles and building sizes. Currently, this area is still characterized by predominantly residential uses, and buildings vary in height from two to fifteen stories. A small cluster of neighborhood commercial uses are located along Madison and 17th Street. These two-story structures contain a cleaners, pharmacy, cocktail lounge and grocery store.

Directly across 17th from the project site are a series of four low-rise apartment buildings. A single law office is also located within this group of buildings. The tallest structure within this group is five stories high and located at the corner of Madison and 17th Street. The remainder of this block, extending southerly from the project site between Madison and Lakeside Drive, contains primarily two- and three-story apartment structures. Exceptions to this pattern are the Scottish Rite Temple, its parking lot, and the Regency Plaza and Noble Towers apartment buildings. The Regency Plaza is 14 stories high. The Noble Towers structure is 16 stories high.

Across Madison Street from the Lake Merritt Hotel are two apart-

ment buildings. The brick, brown-and-white, six story Tudor Hall Apartments are situated at the corner of Madison and 17th Street, and a three-story grey concrete structure is located at the corner of Madison and 19th Street. The intersection of 19th and Jackson, one block from the site, contains three apartment buildings; the twelve-story Lake Royal, the eight-story Regilles, and a four-story structure. 17th Street between Madison and Jackson is bordered predominantly by low-rise apartment buildings and the 12-story Lake Park Retirement Residence.

The Lake Merritt Recreational Area is directly across Lakeside Drive from the project site. Jogging and pedestrian paths, landscaped areas, the Lake Merritt Boathouse, and the Camron-Stanford Building are the closest park facilities to the site.

c. City of Oakland Plans and Policies

The City of Oakland has adopted several policy documents which contain goals and policies to guide development within Oakland's Central District, within which the Lake Merritt area is included. These documents include the "1972 Oakland Policy Plan -- A Component of the Comprehensive Plan" (amended in 1980); the "1966 Oakland Central District Plan;" and the "1980 Land Use Element." These documents particularly encourage residential development in the Central District.[3]

The Oakland Policy Plan established the following relevant policies concerning residential land use.

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[3] City of Oakland, Land Use Element of the Comprehensive Plan, April 29, 1980, p. 49.

1. Within most built-up residential areas, the density of new housing should, in general, not greatly exceed the area's existing density.

2. In determining appropriate housing density for specific areas or projects, the City will generally give preference for relatively high densities to those situations which, on balance, best meet the following criteria:

   a. the area's character does not depend heavily on an existing homogeneity of of building scale and height.

   b. a density increase would likely remove relatively few sound or readily habitable housing units, especially lower-cost units.

   c. there is a significant shopping area or a major retail establishment within a quarter-mile walk, or a major commercial or civic employment center within a half-mile walk.

Relevant goals in the "1966 Oakland Central District Plan" encourage provision of a better variety of residential accommodations and amenities in the Central District, enhancement of views, and preservation of historic structures.

The "Land Use Element" of the Comprehensive Plan encourages the development of high intensity residential uses within the Lake Merritt area. The site's designation within the Plan is high density residential, and policies within the Land Use Element encourage high density housing within the Central District area,

particularly close to public transportation and shopping centers.[4]

The "Land Use Element" also contains policies on the design of new housing. These policies are:

Policy #1

A residential building's height, bulk, and appearance should be harmonious with nearby buildings, the natural setting, and the area's desired character. Actual likeness to nearby buildings is ususally called for where the desired area character depends strongly on homogeneity of building style or scale.

Policy #2

Residential developments should be designed so as to orient their own units to desirable sunlight and views, to avoid unreasonably blocking sunlight and views for neighboring buildings, to provide for sufficient conveniently located on-site usable open space, and to avoid undue noise exposure.

Policy #3

Residential building placement and landscape treatment should be harmonious with the adjoining street scene.

Policy #4

Off-street parking for residential buildings should be adequate in amount and conveniently located and laid out, but in general its visual prominence should be minimized.

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[4] Land Use Element of Oakland Comprehensive Plan, pp. 16-22 and 39-41.

[5] Op. Cit. p. 40, 41.

The City of Oakland housing policies are stated in the Housing Element of the Comprehensive Plan, adopted in 1979 and amended in 1982. The 1982 amendment was prepared to respond to changes in state law AB 2853 which requires new Housing Elements to include a five-year schedule of actions that local governments will take to attempt to meet the need for new housing. A complete listing of the goals, policies and programs is located on pages 91-115 of the Housing Element. In this element, the City of Oakland established quantified housing objectives for 1980 to 1985 aimed at encouraging the creation of an additional 2,750 dwelling units city-wide, including 750 subsidized units for moderate-income and 1,000 subsidized units for low income persons.

The Housing Element policies that apply to the Lake Point Towers residential project include:

<u>Overcrowding and Housing Production Policies</u>

Policy #2

The City will keep well informed of imbalances between housing needs and housing supply. The City will take appropriate measures to correct imbalances when they occur.

Policy #3

The City encourages private housing development in Oakland; it will provide assistance to developers regarding the types and location of units to be built and will attempt to expedite the development of desirable projects where necessary.

Elderly Housing Policy

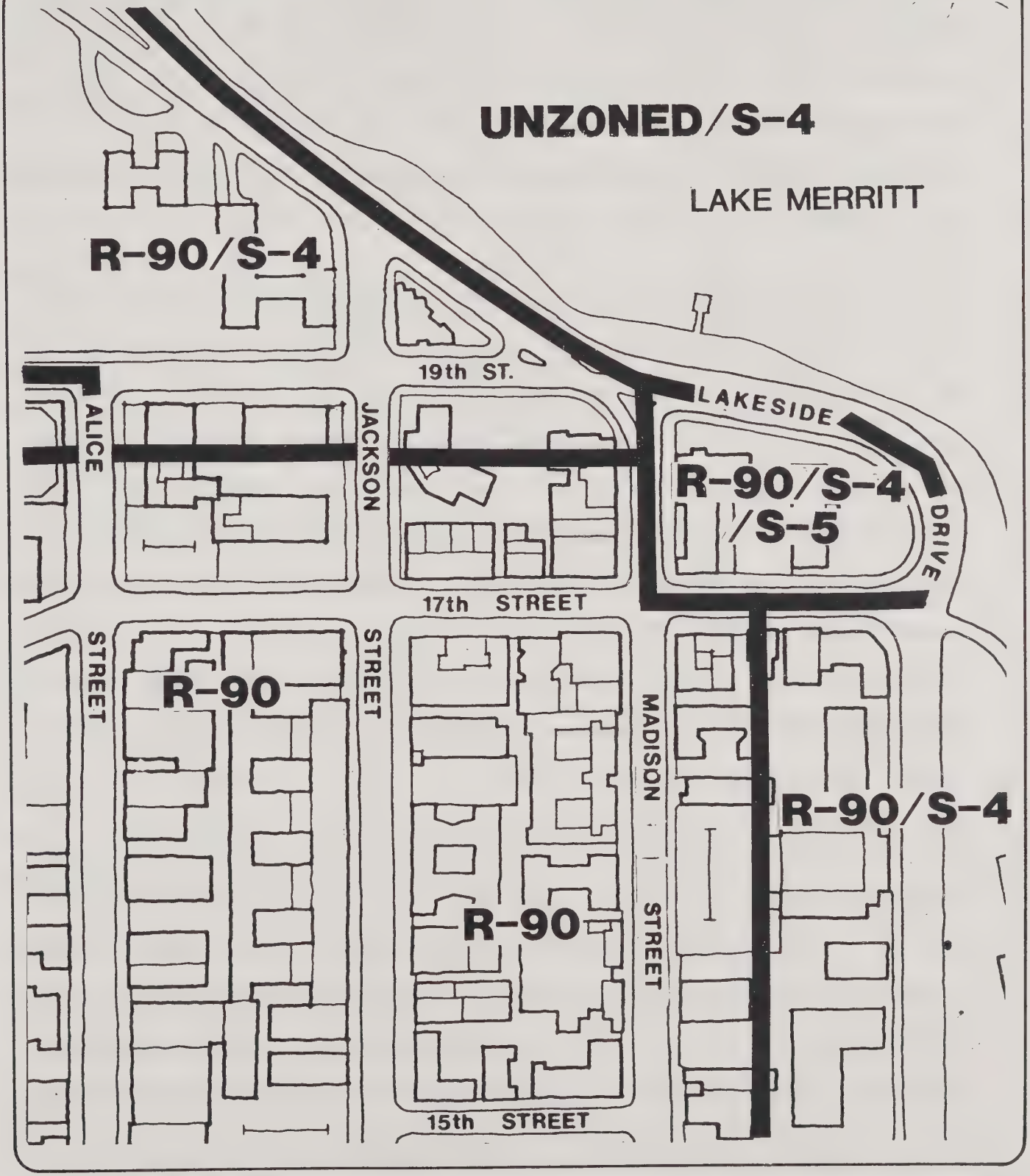
Policy #4

Publicly-assisted elderly housing may be developed throughout the City limited only by the general census tract capacities for additional publicly-provided and publicly-subsidized housing in any particular census tract. However, in census tracts where both publicly-assisted family and elderly housing both may be developed, family housing should have priority, if housing allocations are available, since site locations available for this type of household are more limited.

The housing element does not include policies or programs that relate specifically to housing development in the Lake Merritt area. However, the City Planning Department is currently preparing a revised and updated Housing Element with housing production objectives for 1985 and 1990, and policies concerning downtown housing development.

d. City of Oakland Zoning

The project site is within the combined R-90/S-4/S-5 zone (see Figure 18). The R-90 Downtown Apartment Residential zone is intended to create, preserve, and enhance areas for high-rise apartment living at very high densities. Uses permitted in this zone include residential (permanent and semi-transient) and certain civic activities. Conditional uses include civic activities and designated commercial activities. Conditionally granted commercial activities are to be conducted entirely within the enclosed portion of multi-family dwellings with customer



CURRENT ZONING DESIGNATIONS

Figure 18

SOURCE: CITY OF OAKLAND ZONING MAP

JEFFERSON ASSOCIATES INCORPORATED

access only through the lobby. Proposals for consultative and financial uses must involve the preservation of buildings of architectural significance, and must generate very little vehicular or pedestrian traffic. Maximum floor-area devoted to such activities by any single establishment is limited to 1500 square feet.

There are no height limits in the R-90 zone and the maximum floor area ratio is 7.00. This ratio may be exceeded by 10 percent on any corner lot and by 10 percent on any lot that faces or abuts a public park at least as wide as the lot. For residential uses, 150 square feet of lot area is required per regular dwelling unit. One extra unit is permitted if a remainder of 100 square feet or more is obtained after division of the lot area by 150 square feet. One efficiency dwelling unit[6] is permitted for each 100 square feet of lot area. One extra unit is permitted if a remainder of 75 square feet or more is obtained after division of the lot area by 100 square feet.

Minimum front, side, and rear yard setbacks, except for side yards on interior lot lines are prescribed in this district. On each lot containing two or more residential living units, group usable open space of 150 square feet per regular dwelling unit and 100 square feet per efficiency dwelling unit is required. Private usable open space, as defined by Section 8320 of the

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[6] An efficiency dwelling unit is defined within the City of Oakland Zoning Ordinance as a dwelling unit containing only a single habitable room other than a kitchen or containing less than 500 square feet of floor area.

Zoning Regulation, can be substituted for group open space using the ratio of 1 square foot of private open space as the equivalent to 2 square feet of public open space.

The S-4 Design Review Combining Zone is intended to create, preserve and enhance the visual harmony and attractiveness of areas which require special treatment and the consideration of relationships between facilities, and is typically appropriate to areas of special community, historical, or visual significance. Design review is required for any project proposed within this combining zone.

The S-5 Travel Accommodations Combining Zone is intended to create, preserve, and enhance areas providing sleeping accommodations and other services to travelers. This zone allows Transient Habitation (hotels) in addition to those uses permitted in the zone with which the S-5 is combined. Conditionally permitted activities include commercial uses such as general food sales, convenience markets, fast-food restaurants, alcoholic beverage sales, and convenience sales and service.

When combined with any residential zone, business signs serving transient habitation commercial activities (hotels) are subject to size, location, and illumination limitations. Minimum yard setback requirements are prescribed in this zone for facilities accommodating Transient Habitation commercial activities.

e. City Review and Approval Procedures

APPROVALS REQUIRED

This project will require approval of a Major Conditional Use

Permit, Design Review and a Minor Variance for a reduced rear yard by the City prior to the issuance of any building permits. Elements within the project that necessitate these approvals are as follows.

(1) Major Conditional Use Permit

The R-90 zone stipulates that any project exceeding 100,000 square feet in size or 120 feet in height will require a Major Conditional Use Permit. The proposed project consists of 345,046 square feet of residential development, and its tallest portion is 170'-0" in height. A Major Conditional Use Permit is also required to increase the number of elderly units from the 279 allowed under the existing zoning to the 300 units proposed (8% increase) as per Section 7059 of the Zoning Regulations.

The off-street Parking and Loading Requirements of the Zoning Regulations allow a 75% reduction in required parking for senior citizen housing upon the granting of a conditional use permit. The parking ratio proposed for the senior housing (one space per four units) assumes approval of this 75% reduction. Section 7059 of the Zoning Ordinance, which allows the number of senior residential units to exceed by not more than 75% the normally permitted number of units, is also dependent upon the issuance of a conditional use permit. In order for the proposed project to meet the R-90 site density requirements a Major Conditional Use Permit to increase the number of elderly units by 8% must be approved .

(2) Design Review

The R-90 zone requires any proposal creating more than five new residential living units on a lot to be subject to Design Review. The S-4 combining zone also requires design review.

(3) Minor Variance

A minor variance is required to reduce the R-90 zone's ten foot rear yard requirement.

CITY PROCESSING PROCEDURES

The Zoning Regulations allow the Major Conditional Use and Design Review application to be processed at the same time. A public hearing by the City Planning Commission is required prior to that body rendering a decision on the project. The Commission's decision is appealable to the City Council within 10 days.

CITY APPROVAL CRITERIA

(1) Conditional Use Permit

(a) A major conditional use permit may be granted only if the proposal conforms to the general use permit criteria. These criteria include conformance to any City-adopted land use plans and policies, as well as neighborhood compatibility determination. Consideration is also given to develop-ment scale, design and density; to its traffic impacts; and to the functionality of its site design.

(b) In order to receive the 75% reduction from the required number of spaces for the Senior Citizen Housing parking bonus, the proposal must also conform to both of the following use permit criteria:

- That such occupancy is guaranteed, for a period of not less than 50 years, by appropriate conditions incorporated into the permit.

- That considering the availability, if any, of public transportation within convenient walking distance, the reduced amount of parking will be adequate for the activities served, and that the reduction will not contribute to traffic congestion or impair the efficiency of on-street parking.

(c) In order to receive the 8% senior housing density bonus (75% maximum allowed) the proposal must satisfy the following use permit criteria:

- That such occupancy is guaranteed, for a period of not less than 50 years, by appropriate conditions incorporated into the permit.

- That the impact of the proposed facilities will be substantially equivalent to that produced by the kind of development otherwise allowed within the applicable zone, with consideration being given to the types and rentals of the living units, the probable number of residents therein, and the demand for public facilities and services generated.

(2) Design Review

In addition to the required conformance to City Plans and Policies, Design Review approval also requires a determination that the proposal is a well-composed design, with consideration given to the site layout, landscaping, bulk, height, arrangement, texture, material, colors, and appurtenances; the relation of these factors to other facilities in the vicinity; and the relationship of the proposal to the total setting. The character of the proposed design is expected to harmonize with the existing surrounding environment.

2. IMPACTS

a. Existing Project Site Land Use

The proposed project would relocate the existing 28-unit Venetia Apartments building and demolish the 48 on-site parking spaces.

Subterranean parking is proposed. Excavation will be necessary in order to construct this parking. Existence of a high water table will limit the feasible depth of construction.

b. Surrounding Land Uses

The proposed use of the site is in keeping with the predominantly residential nature of the area. With the exception of the cluster of neighborhood commercial uses along Madison Street, the immediate surrounding area consists of low- to medium-rise multi-family residential units. Some high-rise units, such as the Noble Towers and the Regency Plaza, are located within a block of the site.

The increase in density proposed by this project (from 28 residential units to 458 residential units) could result in more retail trade for the downtown and Lake Merritt shopping areas. Parking is supplied on-site, thereby minimizing impacts from this project to the on-street parking supply. An increase in pedestrian traffic within the neighborhood, as well as increased use of the Lake Merritt recreational area, could be expected to result from the construction of these residential units.

Employment generated by this project would occur primarily during construction. Other employment generated by the proposed project would be service and maintenance jobs within the housing complexes. It can be projected that an on-site building manager, janitor, elevator maintenance person, and security personnel will be needed within the new residential structures.

The construction of new housing close to the downtown area will create an option for those workers who would like to live closer to their places of employment. Both the Kaiser Center, Lake Merritt Plaza, Raymond Kaiser and Cadillac Fairview office buildings are located within walking distance of this site. The Alameda County and California State office buildings are also nearby. The Central Downtown District is six blocks from the site. Workers within these structures may want their residences to be more convenient to their work.

c. City of Oakland Plans and Policies

The proposed residential use of the project responds to several policies and goals of the City of Oakland. Its inclusion of 300

senior units and 158 regular rental units complies with the goal of re-establishing residential areas for all economic levels. Proximity of the site to public transportation network routes is in direct compliance with the City's goal of promoting the use of public transportation through the location of housing, shopping, and employment centers near major bus routes.

Impact of Housing on the Oakland Housing Supply

As stated in the Setting section, the City of Oakland, in the Housing Element of its General Plan, established a five-year (1980-1985) housing objective of 2,750 dwelling units, including 750 subsidized units for moderate-income individual families and 1,000 subsidized units for low-income families. A review of the report entitled Housing Activity in Oakland: 1980, 1981, 1982 indicates a net addition of 1,771 housing units to the City's housing supply over the three-year period, thereby achieving 64% of the City's five-year objective. Subsidized housing accounted for 983, or 56%, of the total number of the new units. Most of these units (830) are located in the Central District and the Lake Merritt area. Therefore, 56% of the City's low/moderate income 1980-1985 housing objective of 1,750 was achieved by the end of 1982. The 1983/1984 City of Oakland Housing Assistance Plan, submitted to the U.S. Department of Housing and Urban Development, calls for an additional 157 newly-constructed subsidized units within the fiscal year.

Assuming the 1985-1990 Quantified Housing Objectives are similar to those applied during the previous five-year period, the Lake

to those applied during the previous five-year period, the Lake Point Tower residential project could satisfy approximately 17% of the total citywide objective. The recently approved City Center Project is anticipated to satisfy another 20% of the total citywide objective. The Chinatown Redevelopment Project, a mixed-use development proposed in downtown Oakland, has a housing component of 250-500 residential units. This proposal could contribute another 10% towards fulfilling the housing objective.

Parking Impacts

The City of Oakland Off-Street Parking and Loading Requirements contained within the zoning ordinance set out the following minimum requirements for the uses proposed within this project:

Residential	=	one parking space for each dwelling unit
Senior Housing	=	one parking space for each dwelling unit (may be reduced by up to 75% with the granting of a conditional use permit)

Parking requirements for this proposal break down as follows:

300 units senior housing @ one space per unit	=	300 parking spaces required (75 parking spaces minimun with use permit)
158 residential units @ one space per unit	=	158 parking spaces required
TOTAL	=	458 parking spaces required (233 minimum required parking with approval of use permit)

d. City of Oakland Zoning

The site of the proposed residential project is 43,043 g.s.f. The current zoning (R-90/S-4/S-5) encourages high-density

within these zones.

The proposed residential development project is consistent with the intent of this combined zone. Residential and designated Civic Activities (Essential Service, Limited Child Care, Nursing Home, Community Assembly, Community Education, Non-Assembly Cultural) are permitted uses within this zone. Conditionally permitted uses are designated Civic Activities (Administrative, Residential Care, Health Care, Utility and Vehicular, Extensive Impact), and commercial activities that include General Food Sales and Convenience Sales and Service Uses. These conditionally permitted activities would all require issuance of a conditional use permit pursuant to Section 9200 and other related provisions of the Oakland Zoning Ordinance.

Open Space requirements for the R-90 zone (Section 3921) stipulate that the minimum usable public open space shall be 150 g.s.f. per regular dwelling unit and 100 g.s.f. per efficiency dwelling unit. Translated to this project's residential make-up a total of 53,700 g.s.f. of open space is required. As indicated in Table A-1, the project supplies a total of 59,239 g.s.f. of open space.

The maximum floor-area ratio within the R-90 zone is 7.00. Bonuses for corner lots (10%) and sites abutting public parks (10%) are allowed. In order to ascertain the compliance of this proposal with the floor-area ratio requirement, the site's maximum potential (F.A.R. x site size) is compared to the proposed square footage of the project (345,046 g.s.f.). The

Table A-1

Open Space Calculations
Proposed Project

GROUP USABLE SPACE REQUIRED

158 units @ 150 g.s.f. each	– 23,700 g.s.f.
300 units @ 100 g.s.f. each	– 30,000 g.s.f.
Total group open space required	– 53,700 g.s.f.

GROUP USABLE OPEN SPACE PROVIDED (terraces)

Podium Terrace	8,176 g.s.f.
Podium Court	7,296 g.s.f.
Podium East	2,400 g.s.f.
Lower Roof	8,100 g.s.f.
Upper Roof	1,300 g.s.f.
Ground Level West	1,575 g.s.f.
Ground Level East	2,012 g.s.f.
TOTAL GROUP OPEN SPACE	30,859 g.s.f.

PRIVATE OPEN SPACE PROVIDED (balconies)

Level 3 – 2 @ 100 g.s.f. each	200 g.s.f.
8 @ 70 g.s.f. each	560 g.s.f.
Levels 4 through 14:	
11 x 4 @ 100 g.s.f.	4,400 g.s.f.
11 x 9 @ 70 g.s.f.	6,930 g.s.f.
Levels 15 through 18:	
4 x 4 @ 100 g.s.f.	1,600 g.s.f.
Level 19 – 6 @ 100 g.s.f.	600 g.s.f.
TOTAL BALCONIES	14,290 g.s.f.
EQUIVALENT GROUP OPEN SPACE (private x 2)	28,380 g.s.f.
TOTAL GROUP OPEN SPACE PROVIDED	59,239 g.s.f.

maximum square footage of development permitted upon this site would be as follows:

A. F.A.R. of 7.00 with 10% corner lot bonus = 331,143 allowable square feet of development

B. F.A.R. of 7.00 with 10% corner lot bonus and 10% public park bonus = 361,561 allowable square feet of development

Calculations of the floor area requirements within the R-90 zone are indicated on Table A-2. With the corner lot and public park bonuses, the proposed project will meet the R-90 zoning requirements for floor area ratio.

In addition to site F.A.R. requirements, the R-90 zone also has residential density requirements. In order for the proposal to conform to the residential density requirements, the total of the number of units times the amount of lot area needed per unit cannot exceed the total square footage of the site. Minimum site area allowable per dwelling unit varies depending upon the type of housing unit proposed. A unit classified as "efficiency" (e.g. studio or less than 500 square feet) is required to contain a minimum of 100 square feet of site area while a "regular dwelling unit" requires 150 square feet of site area. Within this project, the senior units would be classified "efficiency" and the market-rate units classified as "regular dwelling units."

Within the R-90 zone the number of living units permitted may be exceeded by 10% on any corner lot and by 10% on any lot which faces or abuts a public park. These bonuses are allowed outright

Table A-2

Floor Area Calculations
Proposed Project Site

F.A.R. Calculations	Area in Sq.Ft. @ 458 Housing Units
Total Site Area	43,043
Minimum F.A.R.[1]	7.7
Maximum F.A.R.[2]	8.4
Minimum Allowable Development[1]	331,143
Maximum Allowable Development[2]	361,561
Total Residential Development Proposed Within the Total Site Area	345,046

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[1] Assuming the base R-90 District F.A.R. of 7.0 plus the following bonus:

- o corner lot = 10%

[2] Assuming the base R-90 District F.A.R. of 7.0 plus the following bonuses:

- o corner lot = 10%
- o lot facing or abutting public park = 10%

on lots meeting these standards[7]. In addition, Section 7059 of the Zoning Ordinance allows an increased number of dwelling units for Senior Citizen housing. Within senior housing the number of residential dwelling units permitted may be increased by up to 75% over that normally allowed by the site's zoning designations with the granting of a conditional use permit.

Assuming a market-rate dwelling unit site area of 150 g.s.f., and a senior unit site area of 100 g.s.f., and applying these residential density requirements and bonuses to the proposed project results in the following residential density breakdown:

Proposed Project	Site Area
158 Market-Rate Units 300 Senior Units	43,043 g.s.f.

A. Site Area required without any bonuses:

158 x 150 gsf/unit = 23,700 gsf site area
300 x 100 gsf/unit = 30,000 gsf site area
53,700 gsf of site area required for proposed project

B. Site Area allowed after application of 10% public park and 10% corner lot bonuses (as noted earlier, these bonuses are allowed outright)

43,043 gsf x 20% = 8,609 additional gsf of site area for development.
43,043 + 8,600 = 51,643 gsf of site area allowed for development of the project.

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[7] Willie Yee, Associate Planner, Oakland City Zoning Division, written communication, Sept. 1985.

C. Number of senior units allowed without and with public park and corner lot bonuses.

Without Bonus(Market rate)
43,043 - 13,700 = 19,343 / 100 (senior) = 193 senior units allowed

With Bonuses
51,643 - 23,700 (158 Market rate) = 27,943 / 100 (senior) = 279 senior units allowed

D. Additional senior units requested that will require approval of a Conditional Use Permit.

300 - 279 = 21 senior bonus units

This represents an 8% Senior Housing bonus. As noted earlier, an increase of up to 75% may be granted by the City of Oakland through its use permit process.

e. City of Oakland Review and Processing Procedures

This project requires approval of Design Review and Major Conditional Use Applications and Minor Variance from the City of Oakland. Review processing procedures, including a summary of the criteria for approval, have been described in the Setting section. An analysis of the proposed project's conformance to these permit approval criteria is contained within this section.

MAJOR CONDITIONAL USE PERMIT

The current proposal is consistent with the existing plans and policies of the City of Oakland. A discussion of the project's relationship to those plans and policies is contained within Section IV-C of this report. The proposed residential use of the site is in keeping with existing neighborhood uses. The project, however, is larger than any adjacent buildings. A

discussion of the development's scale and site design is contained within the Visual Quality and Urban Design section of this report (see Section IV-F).

Assuming approval of a use permit to allow both the senior citizen parking reduction and senior housing bonus, it could be inferred that the proposed project should not create traffic increases over that which would normally be expected. The reduction in number of parking spaces on-site should reduce the number of vehicle trips generated. As noted in the traffic analysis, the project is expcted to generate a total of 140 automobile trips per day. This is not a substantial number and is in compliance with the use permit finding that an increase in elderly units would not have a greater traffic impact than the normally permitted density. Fewer cars and more pedestrian traffic are projected through the senior/market-rate combination of residential uses than a project with all market-rate units. A totally market-rate proposal, though resulting in fewer total units, would require more parking and would probably, because of the younger age breakdown for residents, result in a greater generation of automotive trips.

DESIGN REVIEW

An analysis of the proposed project's conformance with Design Review Criteria is contained within Section IV-F of this report: Visual Quality, Urban Design, Shade and Shadow.

MINOR VARIANCE

The request to reduce the required tne foot rearyard will be considered in conjunction with other Major Zoning Permits.

B. TRAFFIC AND TRANSPORTATION

1. Setting

a. Street System

Freeways. The proposed site for the Lake Point Towers project is served by three major freeways.

Nimitz Freeway, State Route 17 (SR 17), is the major north-south route from Oakland south to San Jose and north to Richmond. Peak hour traffic, which is carried via eight lanes (four in each direction) averages 14,180 vehicles per hour (vph).[1] Traffic typically flows well through downtown Oakland; however, during the peak periods, congestion occurs north of the Bay Bridge interchange and south of Oakland, between San Leandro and Union City. The Nimitz Freeway has connections that would serve the Lake Point Towers project:

- Oak Street - northbound off-ramp
  - southbound on-ramp
- Jackson Street - northbound off-ramp
- Broadway - northbound off-ramp
  - southbound on-ramp (via Oak Street)
- Market Street - northbound on- and off-ramps
  - southbound off-ramp

The existing Jefferson Street northbound off- and southbound on-ramps will be eliminated and a direct southbound on-ramp from Broadway will be provided as part of the Grove-Shafter Freeway (SR 24/I-980) extension project. The Jackson Street off-ramp,

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[1] All freeway traffic data obtained from "1983 Traffic Volumes on the California State Highway System," California Department of Transportation.

which has been closed for construction, will reopen as an exclusive off-ramp for I-980 traffic.

Grove-Shafter Freeway, State Route 24/Interstate 980 (I-980) is the major east-west freeway connecting downtown Oakland with Central Contra Costa County. The Grove-Shafter Freeway was completed in mid-1985 in downtown Oakland. Peak hour traffic on the Grove-Shafter averages 4,400 vph carried via eight lanes (four in each direction). East of the I-580 interchange, on SR 24, peak hour traffic more than doubles in volume with congestion occurring at the Caldecott Tunnel and at numerous locations between Orinda and Walnut Creek. There are two connections to the Grove-Shafter Freeway serving the northern CBD and the Lake Point Towers project site.

- o 27th Street - eastbound on-ramp
  - westbound off-ramp
- o 18th Street - eastbound on-ramp (off-ramp due at 17th Street in 1985)
  - westbound off-ramp (on-ramp due at 17th Street in 1985)

MacArthur Freeway, Interstate 580 (I-580), runs north/south through Oakland connecting to I-80 in the north and I-680 in the south. The MacArthur Freeway serves as a major route to southern and eastern Alameda County. Near the project site, I-580 runs east/west. Peak hour traffic near the downtown averages 15,500 vph carried by eight travel lanes (four in each direction). During peak periods congestion typically will occur between the Harrison and High Street interchanges, east of the Bay Bridge interchanges, and in southern Alameda County. The MacArthur

Freeway has three interchanges which serve downtown Oakland.

- o Harrison/ Oakland Sts. - eastbound on- and off-ramps
  - westbound on- and off-ramps
- o Grand Avenue - eastbound off-ramp
  - westbound on- and off-ramps
- o Lakeshore Ave. - eastbound on-ramp
  - westbound off-ramp

Local Streets. Figure 19 shows the general street network in the northern Central District. The City of Oakland[2] designates Grand, Harrison, Webster, Lakeside, and Madison as arterials in the vicinity of the site. Arterials are intended to link districts within the City and distribute traffic to and from the freeways. The following streets are designated as collectors in the northern Central District, south of Grand Avenue: San Pablo, Telegraph, Franklin, 20th, 19th, and 17th. Lakeside and Madison provide direct access to the Nimitz Freeway; 19th and 17th Streets provide access to the Grove-Shafter Freeway; and Harrison provides access to the MacArthur Freeway to the north and with Webster Street to the city of Alameda in the south.

Peak hour intersection capacity conditions were calculated at 26 key intersections within the study area utilizing the TRACS computer model[3] (Figure 20). Critical movement analysis[4] was utilized to develop level of service ratings for each intersection (see Appendix for level-of-service definitions). In

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[2] Oakland Policy Plan, City of Oakland, Amended September 1980.

[3] Developed by DKS Associates.

EXISTING STREET NETWORK

SOURCE: DKS ASSOCIATES

←2 INDICATES NUMBER OF LANES AND DIRECTION OF TRAVEL

* PEAK HOUR TOW-AWAY ZONE

Figure 19

SOURCE: DKS ASSOCIATES

EXISTING LEVELS OF SERVICE

1984 PM PEAK HOUR

A 53 — LEVEL OF SERVICE / VOLUME-TO-CAPACITY RATIO (%)

Figure 20

general, all the intersections in the study area operate at acceptable levels of service during the evening peak hour, i.e., level of service "D" or better. The most significant congestion occurs in the Harrison Street corridor from 20th to 27th Street. Harrison Street is the most heavily traveled corridor in the northern CBD. Some queuing and delay is also experienced along Grand Avenue: between Broadway and Webster, due to the narrower four lane street section in this segment and on 20th Street due to the heavy volumes approaching Lakeside and the heavy north/south volumes on Harrison and Webster Streets. Outside the study area, the Grand Avenue and the Lakeshore Boulevard intersections with MacArthur, also experience some peak hour congestion and delays due to the heavy traffic flows to and from the MacArthur Freeway.

b. Transit

The project site is served by two public transit systems: the Alameda/Contra Costa Transit District (AC Transit) and Bay Area Rapid Transit District (BART) (see Figure 21).

AC Transit. There are twelve AC Transit lines within a five block radius of the project site. Headways vary from five to thirty minutes during the morning and evening peak periods. Midday service frequencies range from ten to thirty minutes. The lines which provide the most convenient access to the site are Route 12 on Jefferson Street and Routes A, 15, 18, 82, and 83 on 14th Street. The Oakland Downtown Shuttle, which circulates

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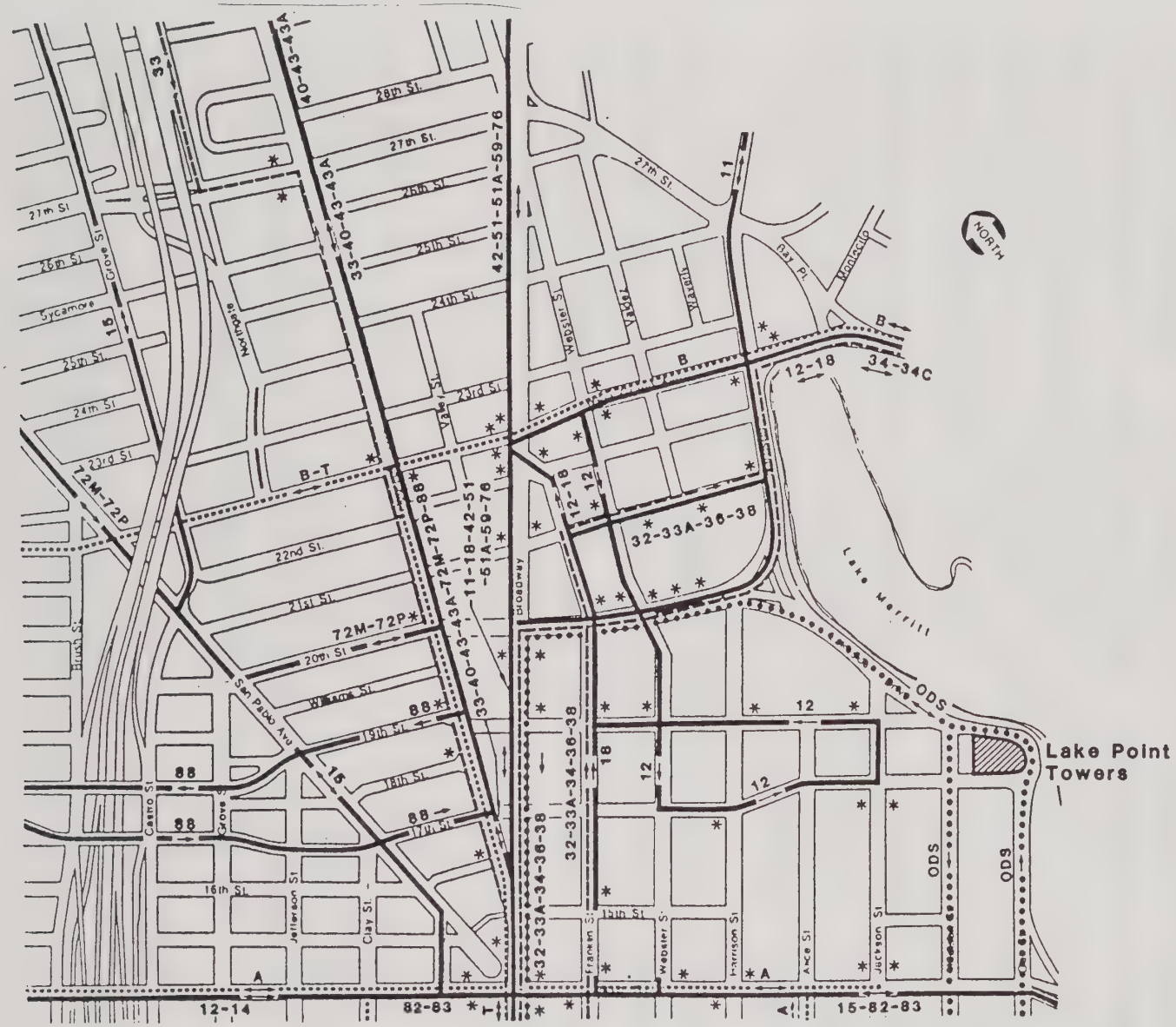
4 "Interim Materials on Highway Capacity," Transportation Research Board, Circular No. 212, Washington, D.C., 1980.



EXISTING AC TRANSIT ROUTES

SOURCE: DKS ASSOCIATES

- LOCAL LINES
- EXPRESS LINES
- TRANSBAY LINES
- OAKLAND DOWNTOWN SHUTTLE
- * BUS STOP
- 33 BUS ROUTE DESIGNATION

Figure 21

JEFFERSON ASSOCIATES INCORPORATED

around the Central District, directly serves the site, running northbound on Lakeside and southbound on Madison. The shuttle operates on ten- to fifteen-minute headways during weekday business hours.

The PM peak hour load factors[5] on AC Transit routes serving the Lake Point Towers project range from 32 percent to 83 percent of seated capacity (see Table B-1). The average peak hour load factor for all routes leaving the CBD is 67 percent of seated capacity. AC Transit has a service objective of keeping peak period load factors to under 1.25 percent during the peak half-hour period.[6] This criterion is met by all lines in the vicinity of the proposed project.

As can be seen in Figure 21, most of the AC Transit lines are five blocks from the site near Broadway and Franklin Street. Many of these lines are served by buses with handicap lifts which would be important for senior citizen housing elements for the proposed project.

BART. The closest access to the BART system is provided at the 19th Street Oakland Station, six blocks from the proposed site. Station entrances are located at the 19th Street/Broadway intersection, on the southeast and northeast corners.

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5 Load factor is the ratio of passengers to available seats. The load factor data is based on a 1981 Cordon Count of all Central District outbound buses and represents the most comprehensive data available. This data is expected to be updated as part of Phase II Improvement Study.

6 AC Transit Five-Year Plan FY 1984-1988, May 7, 1983.

Table B-1

AC TRANSIT PATRONAGE (1981)
Outbound Direction from Oakland CBD, 4:00-6:00 PM

	Cordon Station	Routes	Passengers[1]	Seated[1] Capacity	Load[2] Factor
1.	7th/Grove	82, 83	1,354	2,050	.66
2.	11 and 14th Street /Grove	12, 14, 88	475	1,500	.32
3.	San Pablo and Grove /West Grand	15, 72	1,140	1,500	0.76
4.	27th/Telegraph	31,33,40,43	940	1,850	0.51
5.	27th/Broadway	42,51,59,76	960	1,650	0.58
6.	Grand/Harrison	11,12,18,34	1,660	2,050	0.81
7.	11th and 14th Street /Oak	14,15,18,38,40, 43,82,83	3,580	4,600	0.78
8.	5th Street/Oak	32,33,36	560	950	0.59
9.	6th Street/Webster	42,51,58	830	1,000	0.83
	TOTAL		11,499	17,150	0.67

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1 Passengers and capacity are for full two hour period 4:00 to 6:00 PM.

2 Load factor equals passengers divided by seated capacity.

SOURCES: AC Transit Schedule Department
DKS Associates Field Surveys, December 8, 1981

BART currently runs three routes through its 19th Street station: Concord-Daly City, Richmond-Daly City, and Richmond-Fremont. Consequently, all stations on the system can be reached without transfer. PM peak hour load factors on these routes range from .64 to 1.33 (see Table B-2). For planning purposes, BART assumes a 1.5 load factor is the average peak hour load factor that will be tolerated by passengers[7] and passengers will balance their ridership among the available lines serving their destination.

c. Parking

There are a total of about 360 public off-street parking spaces within three blocks (roughly 1,000 feet) of the Lake Point Towers Site (see Figure 22). During the peak mid-morning and mid-afternoon parking periods an average of 85 percent of these public off-street spaces are occupied. There are also a significant number of private off-street spaces which are for the exclusive use of the residential units in the neighborhood.

The project block currently has 52 off-street parking spaces associated with the Lake Merritt Hotel and Restaurant. Twenty-six of the spaces are in a surface lot and intended for hotel and restaurant guests. The remaining 26 spaces, located under the restaurant, are not currently utilized. An additional seven marked spaces and 15 unmarked spaces are provided off-street for the apartment building located on the project site.

The availability of on-street, convenient parking is more critical to residential developments which require adequate space for

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[7] BART 1984 Short Range Transit Plan, June 21, 1984.

Table B-2

BART PATRONAGE
1984 PM Two-Hour Peak Period*

Location	Route/Direction	Seats	Passengers	Load Factor
North of MacArthur Station	Daly City to Concord	7,786	10,376	1.33
	Daly City to Richmond	3,785	4,031	1.07
	Fremont to Richmond	2,088	1,339	.64
South of Lake Merritt Station	Daly City to Fremont	5,198	6,914	1.33
	Richmond to Fremont	2,411	2,706	1.12
West of San Francisco Civic Center Station	All routes to Daly City	14,622	10,733	.73

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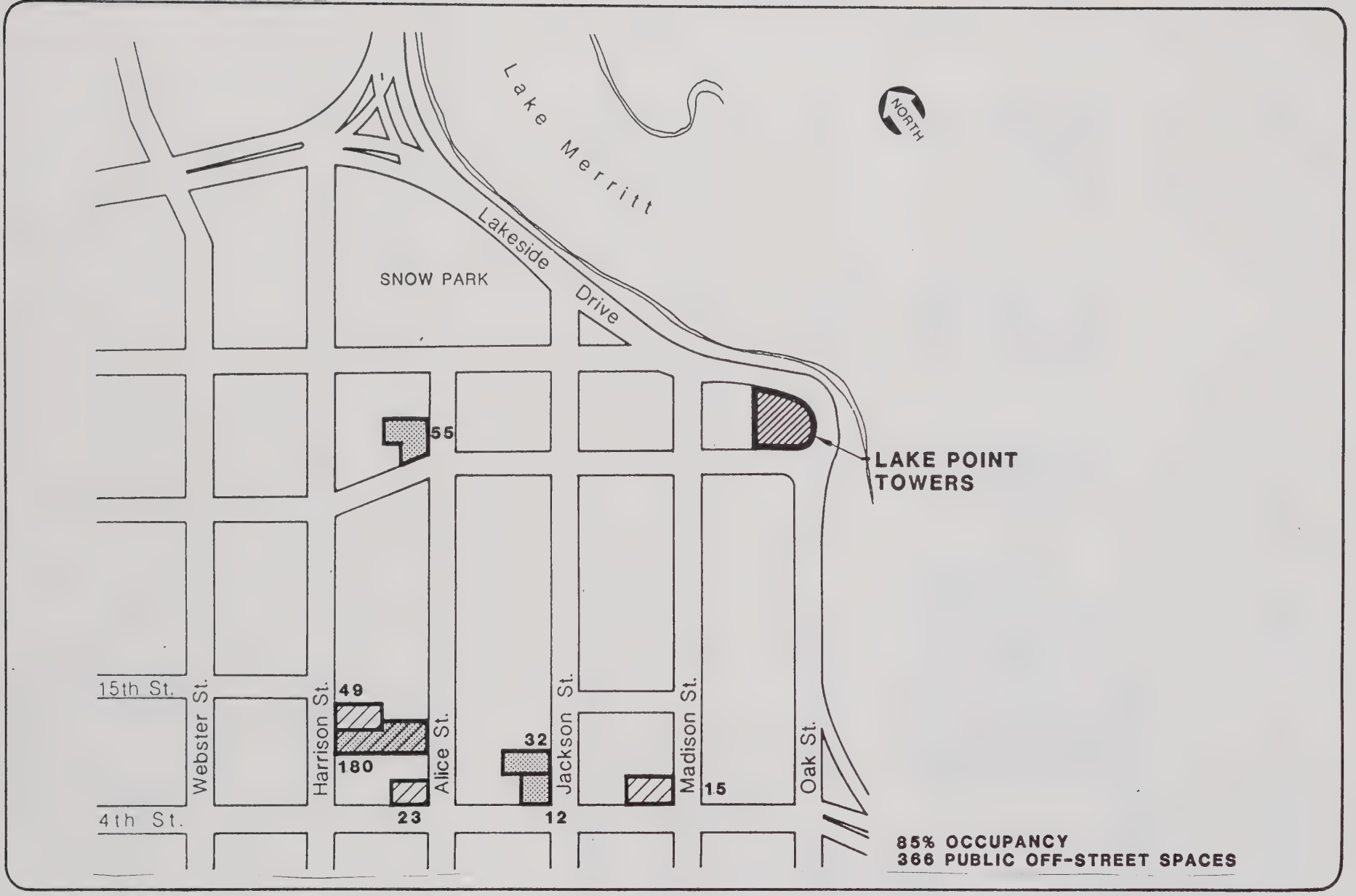
* PM Peak two-hour period data interpolated from BART PM Peak Period train cycle ridership information.

SOURCE: "Representative PM Peak Weekday Load Factors For April-June 1984," BART Planning and Analysis.



OFF-STREET PARKING

LONG TERM
SHORT TERM
LONG & SHORT TERM

SOURCE: DKS ASSOCIATES

Figure 22

guest parking. There are a total of about 640 on-street parking spaces within three blocks of the project site. These spaces are approximately 84 percent occupied during the mid-day and 74 percent occupied in late evening (see Table B-3). The most heavily utilized spaces are the unrestricted spaces during the day and the two-hour non-metered spaces during the evening.

In general, Harrison and 19th Street, which are predominated by metered parking and commercial uses, experience the highest occupancies during the day. Madison, Jackson, and Alice, which are predominantly residential streets, with uncontrolled or two-hour restricted parking during the day, have the highest occupancy during evening hours.

d. Pedestrian/Bikeway Circulation

Lakeside, running along the eastern border of the site, and 14th Street, three blocks from the proposed site, are both designated pedestrianways. The shoreline of Lake Merritt is a designated recreational bikeway. Pedestrianways and bikeways are intended to provide direct, safe access to parks, recreation areas, mass transit collection points, and other places of interest.[8]

Adjacent to the project site, the greatest pedestrian activity occurs at the intersection of Madison and 17th during the PM peak period. Table B-4 presents the current pedestrian volumes in crosswalks adjacent to the site. Overall, the pedestrian flows are very light and "free flow" conditions exist at all the inter-

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[8] Oakland Policy Plan, City of Oakland; Adopted October 24, 1972, Amended through September 1980.

Table B-3

ON-STREET PARKING INVENTORY[1]

Type of Parking	Number of Spaces	Mid-Day Occupancy	Evening Occupancy
30 Minute Meters	2	100%	100%
Two-Hour Meters	266	83%	51%
Two-Hour Non-Metered	288	82%	93%
Unrestricted Spaces	81	96%	84%
Handicapped Spaces	3	33%	0%
TOTAL	640	84%	74%
Yellow Loading Zones	19	63%	63%

[1] Inventory conducted in area bounded by Lakeside, Oak, 14th and Harrison.

SOURCE: DKS Associates Field Survey November 8 (1:30-3:30 PM) and November 14 (9:00-10:00 PM), 1984.

PEDESTRIAN CROSSWALK VOLUMES
Peak 15 Minute Period

Location	PM Peak 15 Minutes
19th & Madison	
Crossing 19th-West Crosswalk	7
Crossing Madison-South Crosswalk	6
17th & Madison	
Crossing 17th-East Crosswalk	6
Crossing 17th-West Crosswalk	14
Crossing Madison-North Crosswalk	8
Crossing Madison-South Crosswalk	21
17th & Lakeside (Oak)	
Crossing 17th-West Crosswalk	7
Crossing Lakeside-South Crosswalk	8

SOURCE: DKS Associates Field Survey, November 6, 1984 (4-6 PM).

sections during peak period conditions.

2. Impacts

In the following sections, the potential impacts of the proposed Lake Point Towers project on traffic, transit, parking, pedestrian, truck service, and construction are discussed. Impact analysis of the project combined with other proposed development projects is also discussed. The horizon years for the analysis are 1986 for the proposed project and 1995 for cumulative analysis.

a. Site Evaluation

The project block is currently occupied by the Lake Merritt Hotel and Restaurant and a 26-unit apartment building; the remainder of the block is covered by surface parking lots or is undeveloped. The project site itself has five access driveways, three onto 17th Street and two onto Lakeside Drive. These surface parking areas and the apartment complex will be eliminated with the development of Lake Point Towers and the access points will be relocated.

The primary auto access for the project would be located on 17th Street. The driveway, located mid-block between Madison and Oak, would provide access to a four-level parking garage including one ground floor and three underground floors. The main pedestrian access to the first and second floor lobbies will be located off 17th Street. A secondary access to the residential units will be provided from Lakeside Drive via the terrace garden overlooking Lake Merritt.

Vehicle access. The proposed project will not modify perimeter street circulation. Lakeside Drive will continue to operate one-way north and westbound, Madison will operate one-way southbound, and 17th will operate one-way eastbound. Focusing auto access for the site onto 17th Street provides for minimal disruption and conflict with traffic flows on the surrounding streets. Seventeenth Street has lower traffic volumes and is more residential in character, allowing ease of access to and from the site. Access directly from Lakeside Drive to the site was avoided due to the potential merge conflicts at the Madison/19th/Lakeside intersection and due to the sight distance limitations presented by the configuration of Lakeside Drive at the site.

Transit. There are presently no transit stops located adjacent to the site. The proposed project will have no effect on transit routing and therefore does not warrant any special transit provisions.

Service Vehicle Access. The proposed project includes two service vehicle loading docks off 17th Street. Service vehicles would back into docks from the street. Due to the low traffic volumes on 17th Street, on-street vehicle maneuvering and backing should not present significant traffic disruption problems.

Pedestrian Circulation. The main pedestrian access to the building will be located mid-block on 17th Street. A second access, to the upper ground floor, would be provided off Lakeside Drive. Providing pedestrian access from both sides of the building maximizes pedestrian circulation and access to transit

and enhances the sense of orientation of the building to the Lake.

The pedestrian circulation for the project will be focused on the public sidewalks surrounding the site. The pedestrian flows of the project can be accommodated by maintaining the existing sidewalks which have a minimum unobstructed sidewalk width of five feet around the site.

Passenger Loading. No on-site passenger loading area is proposed in the project and no such area is stipulated by code. The senior housing units would tend to generate pick-up/drop-off activity in which the driver of the car may have to stop and assist the passenger into or out of the car. To minimize disruption to traffic flows on the street, it is recommended that the curb on 17th Street, in front of the lobby to the senior housing units, be striped for two passenger loading spaces.

b. Travel Demand Analysis

The proposed Lake Point Towers Project was evaluated based on an assumed completion date of 1986. The proposed project consists of 300 senior housing units, 158 market-rate apartments, and 7,892 gross square feet (g.s.f.) of administrative or support office space. As proposed, the project would generate a total of 2,570 person trips per day, of which approximately 230 would be during the PM peak hour (see Table B-5). For the purposes of the travel demand analysis, the support office trip generation was assumed to be included in the senior housing rates, as these uses would serve the residents and would generate only internal trips.

Table B-5
TRIP GENERATION

Use	Daily Person Trips	PM Peak Hour Person Trips			PM Peak Hour Vehicle Trips
		Auto	Transit	Other	Total	
Standard Residential	1,200	65	30	15	110	60
Senior Housing	1,370	75	30	15	120	65
	2,570	140	60	30	230	125

Table B-6
MODE SPLIT AND TRIP DISTRIBUTION
PM Peak Hour

Mode	Destinations	Vehicle Trips	Total Person Trips
Auto	Oakland CBD	25	30
	Remainder Oakland	50	55
	City of Alameda	5	5
	Contra Costa County	5	5
	North-East Bay	20	25
	San Francisco	10	10
	South Bay Area[1]	10	10
	Subtotal	125	140
AC Transit		--	40
BART		--	20
Other		--	30
TOTAL		125	230

SOURCES:

- "MTC 550 Zone Journey to Work Trip Tables," 1980.
- "MTC FCAST Travel Demand Models," 1977.

[1] Includes Santa Clara County, San Mateo County and Southern Alameda County.

Different trip distribution patterns were utilized in analyzing trips to reflect the unique travel behavior of the two user groups: residents of the apartment units and residents of the senior housing units. Table B-6 summarizes the trips specific to the Lake Point Towers project. Due to the residential character of the proposed development, the majority of the trips will be traveling to, rather than away from, the project site during the PM peak period. This pattern is distinctly different from the highly peaked outbound PM peak period flows characteristic of the office and retail growth occurring in the Central District. The implications of these travel patterns are discussed in greater detail in subsequent sections pertaining to each mode.

Future traffic was estimated for the local street system's peak hour period (4:30-5:30 p.m.), which approximated the peak hour for residential trip generation. AC Transit and BART impact analysis was based on the peak two-hour period. These represent the peak analysis conditions for traffic and transit.

There are several development projects in the Oakland Central District that have been completed in the last few years, are under construction, or have been approved and are expected to be completed by 1986. Figure 23 identifies those projects in the vicinity of the Lake Point Towers project. The projects used for the 1986 analysis year are listed in Table B-7. These developments are projected to generate a total of 69,100 person trips per day and 7,200 person trips during the PM peak hour.

Additional projects which have been approved or proposed in the

PROJECTS IN THE VICINITY OF THE LAKE POINT TOWERS SITE

SOURCE: DKS ASSOCIATES.

Figure 23

Oakland CBD and are expected to be completed by 1995 are noted in Table B-8. These projects are included in the 1995 cumulative development analysis. A total of 184,070 person trips per day and 20,120 PM peak hour person trips would be generated by these projects.

c. Traffic Impacts

This section deals with the impacts of future traffic generated by the by the proposed Lake Point Towers project on local streets and freeways. The cumulative impacts of proposed developments in the Oakland Central District are also analyzed.

Street Intersections. In consultation with the City of Oakland Traffic Engineering and Parking Division, twenty-six key intersections in the study area were selected for detailed analysis (Figure 20). The estimated future traffic volumes for each intersection were projected to 1986 and 1995 based on manual turn-counts performed by the consultant between 1981 and 1984 and projected development shown in Tables B-7 and B-8. Levels of service and volume-to-capacity ratios were determined for the local peak hour period (4:30-5:30 p.m.) based on critical movement analysis.[9]

The four scenarios analyzed were the following:

1. 1986 - Without Project: Completion and occupancy of all projects identified in Table B-7.

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9 "Interim Materials on Highway Capacity," Transportation Research Board, Circular No. 212, Washington, D.C., January 1980.

2. 1986 - With Project: Completion and occupancy of all projects identified in Table B-7 and Lake Point Tower Project.

3. 1995 - Without Project: Completion and occupancy of all projects identified in Tables B-7 and B-8

4. 1995 - With Project: Completion and occupancy of all projects identified in Tables B-7 and B-8 and Lake Point Tower Project.

These scenarios provide a direct comparison of traffic flows at critical times, both with and without the project. A summary of the PM peak hour volume-to-capacity ratios and levels of service for the key intersections adjacent to the site is provided in Table B-9.

1986 - Without Project: Under the 1986 scenario, without the Lake Point Towers project, two intersections, 27th/Harrison Street and MacArthur Boulevard/Lakeshore Avenue, would operate at level of service "E" during the PM peak hour. Two additional intersections, 20th/Harrison Street and MacArthur/Grand, would operate at level of service "D". These conditions reflect a moderate worsening of congestion which currently exists in the Harrison Street corridor, serving the developing northern CBD area, and in the MacArthur Boulevard corridor at the I-580 access points.

1986 - With Lake Point Towers: The development of the Lake Point Towers project would not create additional changes in level of service above the previous 1986 scenario. Only modest increases

Table B-7
PROJECTS INCLUDED IN THE 1986 ANALYSIS

Development	Status	Size-Use	Daily Person Trips	Peak Ho Person Trips
1. Convention Center/Hotel 1011 Broadway	Completed	130,000 GSF- Center 500 Room - Hotel	10,000 2,700 12,700	70 20 90
2. Alameda County Courthouse 6th/Clay	Completed	New Courts Bldg. and Pre-Trial Detention Facility (635 Parking Spaces)	2,650	46
3. Trans Pacific Centre - I	Completed	232,500 GSF - Office 78,700 GSF - Retail (356 Parking Spaces)	3,490 1,570 5,060	380 160 540
4. BART/MTC	Completed	106,000 GSF - Office	1,590	170
5. Oakland City Center - OB III	Completed	218,000 GSF - Office	3,270	360
6. Raymond-Kaiser Building 1800 Harison	Completed- Partial Occupation	739,000 GSF - Office (400 Parking Spaces)	11,090	1,200
7. Lakeside Plaza 1401 Lakeside Drive	Completed Not Occupied	127,000 GSF - Office (78 Parking Spaces)	1,900	210
8. Leamington Hotel	Completed Partial Occupation	96,200 GSF - Office 15,700 GSF - Retail	1,450 320 1,770	160 30 190
9. Victorian Row-9th Broadway	Under Construction	150,000 GSF - Office 150,000 GSF - Retail	2,250 3,000 5,250	250 300 550
10. Lake Merritt Plaza	Under Construction	450,000 GSF - Office 18,500 GSF - Retail (400 Parking Spaces	6,750 370 7,120	740 40 780
11. Oakland City Center - OB IV	Under Construction	218,000 GSF - Office (70 Parking Spaces)	3,270	360
12. Pankow Building - 2101 Webster Street	Under Construction	436,000 GSF - Office 20,000 GSF - Retail (58 Parking Spaces)	6,540 400 6,940	720 40 760

Table B-7, page 2 of 2
PROJECTS INCLUDED IN THE 1986 ANALYSIS

Development	Status	Size-Use	Daily Person Trips	Peak Hour Person Trips
13. Cadillac Fairview - 1901 Harrison Street	Under Construction	271,500 GSF - Office 8,500 GSF - Retail (300 Parking Spaces)	4,070 170 4,240	450 20 470
14. AC Transit Building 17th/Franklin	Approved	150,000 GSF - Office	2,250	250
TOTAL			**69,100**	**7,200**

GSF = Gross Square Feet

Table B-8
PROJECTS INCLUDED IN THE 1995 ANALYSIS

Development	Status	Size-Use	Daily Person Trips	Peak Hour Person Trips
1. Kaiser Center	Approved	3,905,000 GSF[1] - Office	58,580	6,440
		215,000 GSF - Retail	4,300	430
		(2,020 parking spaces)	62,800	6,870
2. Oakland City Center	Approved	4,032,000 GSF - Office	60,480	6,650
		123,000 GSF - Retail	2,460	250
		600 DU's - Residential	4,560	410
		(3,120 parking spaces)	67,500	7,310
3. Hotel Two - 11th/Broadway	Under Formal Review	600 Rooms - Hotel	10,200	750
		20,000 GSF - Retail	400	40
		(600 parking spaces)	10,600	790
4. Jack London Square	Under Formal Review	818,000 GSF - Office	12,270	2,450
		143,000 GSF - Retail	2,860	290
		54,000 GSF - Restaurant	6,480	390
		710 Rooms - Hotel	7,100	500
		(2,850 parking spaces)	28,710	3,360
5. Chinatown Redevelopment Project	Proposed	685,000 GSF- Office	10,280	1,130
		50,000 GSF - Retail	1,000	100
		20,000 GSF - Cult. Center	1,200	120
		250 DU's - Residential	1,900	170
		(1,570 parking spaces)	14,380	1,520
		TOTAL	**184,070**	**20,120**

[1] GSF = Gross Square Feet.

Table B-9
INTERSECTION PERFORMANCE
Weekday PM Peak Hour - Level of Service, Volume-to-Capacity Ratio

Street Intersection	1984 Existing	1986 Without Project	1986 With Project	1995 Without Project	1995 With Project
1. 27th St. & Northgate	B (0.66)	C (0.71)	C (0.71)	D (0.88)	D (0.88)
2. 27th St. & Telegraph	B (0.61)	B (0.66)	B (0.66)	C (0.77)	C (0.77)
3. 27th St. & Broadway	B (0.62)	B (0.63)	B (0.63)	D (0.75)	C (0.75)
4. 27th St. & Valdez	A (0.33)	A (0.33)	A (0.33)	A (0.49)	A (0.49)
5. 27th St. & Harrison	D (0.88)	E (0.93)	E (0.93)	F (1.11)	F (1.11)
6. Oakland Ave. & Perry Place	A (0.45)	A (0.48)	A (0.48)	A (0.52)	A (0.52)
7. MacArthur Blvd. & Grand Ave.	D (0.82)	D (0.83)	D (0.83)	D (0.84)	D (0.84)
8. MacArthur Blvd. & Lakeshore Ave.	D (0.88)	E (0.94)	E (0.94)	F (1.03)	F (1.03)
9. Grand Ave. & Harrison	C (0.78)	D (0.84)	D (0.84)	E (0.94)	E (0.94)
10. Grand Ave. & Valdez	A (0.54)	A (0.57)	A (0.57)	D (0.86)	D (0.86)
11. Grand Ave. & Webster	C (0.72)	C (0.75)	C (0.75)	E (0.92)	E (0.92)
12. Grand Ave. & Broadway	C (0.76)	C (0.77)	C (0.77)	D (0.85)	D (0.85)
13. Broadway & Franklin	C (0.72)	C (0.73)	C (0.73)	C (0.75)	C (0.76)
14. Grand Ave. & Telegraph	B (0.60)	B (0.64)	B (0.64)	B (0.69)	B (0.69)
15. Grand Ave. & Northgate	B (0.66)	B (0.68)	B (0.68)	C (0.71)	C (0.71)
16. Lakeside Drive & Madison	A (0.35)	A (0.37)	A (0.41)	A (0.41)	A (0.46)
17. Lakeside Drive & Jackson	A (0.56)	A (0.57)	A (0.57)	A (0.58)	A (0.58)
18. 20th St. & Harrison	B (0.83)	D (0.86)	D (0.86)	E (0.95)	E (0.95)
19. 20th St. & Webster	C (0.74)	D (0.82)	D (0.82)	E (0.90)	E (0.90)
20. 20th St. & Broadway	B (0.67)	B (0.69)	B (0.69)	C (0.73)	C (0.73)
21. 19th St. & Webster	B (0.62)	B (0.62)	B (0.62)	B (0.68)	B (0.68)
22. 19th St. & Harrison	A (0.53)	A (0.58)	A (0.58)	B (0.62)	B (0.63)
23. 17th St. & Webster	B (0.60)	B (0.62)	B (0.62)	B (0.66)	B (0.66)
24. 17th St. & Harrison	A (0.54)	B (0.62)	B (0.62)	C (0.70)	C (0.70)
25. 17th St. & Madison	A (0.27)	A (0.28)	A (0.31)	A (0.31)	A (0.34)
26. 17th St. & Oak (Lakeside)	A (0.30)	A (0.30)	A (0.32)	A (0.31)	A (0.33)

NOTE: Signalization of Oakland Avenue/Perry Place and of Lakeside Drive/Jackson St. was assumed.

in traffic would be added to intersections adjacent to the project site.

1995 - Without Project: Six intersections would operate at deficient levels of service ("E" or worse) due to cumulative CBD development. Four additional intersections would experience level of service "D" conditions. Grand Avenue would operate poorly between Broadway and Harrison Street (and even up to MacArthur Boulevard), as would Harrison Street between 20th and 27th Streets. Much of this additional traffic would be attributable to the development of the Kaiser Center. Access to the MacArthur Freeway would be difficult because of congested conditions along Grand Avenue and Harrison Street.

1995 - With Lake Point Towers: The differences between the 1995 traffic with the proposed project and 1995 traffic without the proposed project would not be significant. Six intersections would operate at deficient levels of service ("E" or worse) because of cumulative CBD development along with the proposed project.

Freeway Impacts: During the AM peak hour, in the peak direction, the number of vehicles added by Lake Point Towers to the freeway network in the north CBD is estimated at only ten autos. This will not significantly alter freeway congestion conditions.

The cumulative AM peak hour volumes on the key freeway off-ramp serving the Lake Point Towers site are the most critical in assessing the project impacts on the freeway system. The

operations on ramps and the intersections at the foot of the ramps indicate the potential effects on upstream freeway segments.

Two freeway ramp intersections at I-980 were analyzed for the AM peak hour in the 1995 horizon year, 27th Street and 18th Street. The 1995 projected AM peak hour off-ramp volumes contributed by future downtown Oakland cumulative development including Lake Point Towers would be as follows:

18th Street -- 790 vehicles

27th Street -- 710 vehicles

The 27th Street/Northgate Avenue intersection, which is at an on-ramp to I-980, was analyzed for the PM peak hour. The projected volume-to-capacity ratio for the intersection is 0.88, which would correspond to level of service "D". Since the AM peak hour would represent a reversal of this commute situation, the intersection at the base of the 27th Street off-ramp would operate at a similar level of service during the morning peak hour.

The 1995 AM peak hour off-ramp volume at 18th Street is estimated at 2,720 vehicles. The off-ramp, at three lanes in width, has enough capacity to handle this amount of traffic. The signal at 18th and Brush Streets is actuated, so it remains on green long enough to let large platoons of traffic proceed without being delayed (cross-traffic on 18th Street is currently less than 100 vehicles during the AM peak hour). In 1976, because 18th Street was the last exit from the uncompleted Grove-Shafter Freeway, the off-ramp volume was 3,000 vehicles with no effect of queuing occurring on the freeway. 1995 cumulative traffic represents a

nine percent decrease in off-ramp traffic over 1976 volumes. The reduction is primarily due to the spreading of trips to the 11th/12th Street ramps.

d. Transit Impacts

AC Transit: Table B-10 shows the projected load factors on AC Transit's downtown Oakland lines. The trip distribution is based on existing evening peak ridership patterns from the CBD. The Lake Point Towers project would generate an additional 65 riders on AC Transit during the PM peak period in downtown Oakland. Due to the residential character of the project, however, only eight percent (five trips) of the AC Transit trips would be in the peak period, peak direction, i.e., outbound from the Central District. The remainder of the transit trips would be in the reverse commute direction. As a result the impact on AC Transit will be negligible.

By 1986, PM peak period ridership growth on AC transit is expected to increase the 1984 estimated average load factor of .73 to an average load factor of .80. Load factors on all corridors serving the Central District are less than 1.0, indicating additional capacity would still be available. This assumes no capacity increase[10] or spreading of the peak period. The projected peak period load factors are still well below AC Transit's maximum load factor objective of 1.25; however, the service objective could be exceeded on individual lines during discrete half-hour time periods. This problem could be avoided

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10 AC Transit Five Year Plan 1984-88, p. VII-33 -- Projects no capacity increases before 1990.

Table B-10

PROJECTED AC TRANSIT LOAD FACTORS[1]

PM Peak Period Direction

	Cordon Station	Routes	1984 Estimated Load Factors[2]	Projected Load Factors: 1986 Without Project[3]	1986 With Project[4]	1995 Without Project[5]	1995 With Project[6]
1.	7th/Grove	82,83	.71	.78	.78	1.08	1.08
2.	11th&14/Grove	12,14,88	.34	.38	.38	.52	.52
3.	San Pablo & Grove/W.Grand	15,72	.81	.90	.90	1.24	1.24
4.	27th/Telegraph	33,40,43	.56	.61	.61	.85	.85
5.	27th/Broadway	42,51,58 59,76	.62	.68	.68	.95	.95
6.	Grand/Harrison	11,12,18 34	.87	.96	.96	1.32	1.32
7.	11th&14th/Oak	14,15,18 38,40,43 82,83	.83	.92	.92	1.27	1.27
8.	5th/Oak	33,36	.68	.76	.76	1.04	1.04
9.	6th/Webster	51,58,61	.89	.98	.98	1.35	1.35
	AVERAGE		.73	.80	.80	1.10	1.10

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1 Load factor is the ratio of passengers to capacity. Seating capacity is assumed to be fixed over the period.

2 1984 Load Factors, as estimated from 1981 cordon counts and accounting for .5 percent background (non-CBD) annual growth, completed and occupied projects in CBD from 1986 project list (Table 7), and changes in service instituted in September, 1984.

3 Assumes completion and occupancy of all projects identified in Table 7.

4 Assumes completion and occupancy of all projects identified in Table 7 and Lake Point Towers project.

5 Assumes completion and occupancy of all projects identified in Tables 7 and 8.

6 Assumes completion and occupany of all projects identified in Tables 7 and 8 and Lake Point Towers project.

by reassigning equipment among the routes to respond to changing demand levels. The Lake Point Towers project would, by itself, have no effect on the peak period direction load factors.

By 1995, cumulative CBD development would increase the number of peak period transit trips by over 60 percent. Assuming no capacity increases,[11] or spreading of the peak, the average load factor for buses outbound from the CBD would increase to 1.10. AC Transit's 1.25 service objective would be exceeded in the following corridors during the PM peak periods: Grand/Harrison, 11th and 14th/Oak, and 6th/Webster. The Lake Point Towers project would have no effect on the 1995 peak period load factors due to its minor contribution to peak period, peak direction travel.

BART: The proposed project would generate 40 evening peak period (two-hour) BART trips. The majority of these trips would be inbound to the Oakland Central District during the PM peak period and originating in the westbay.

Under the 1986 no-project alternative, BART evening peak two-hour period, peak direction ridership is expected to increase on all lines from two percent to 26 percent relative to current 1984 levels. This assumes full occupancy of all projects approved or under construction in downtown Oakland, a 2.7 percent annual transbay ridership increase due to growth in the San Francisco CBD, a 1.2 percent annual westbay ridership due to the San Fran-

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[11] AC Transit has no long-range plans extending to 1995. The Central District Transit Study, initiated in January, 1985, is intended to address some of the long-range transit issues.

cisco CBD growth,[12] and a one percent annual background growth reflecting non-CBD growth. No capacity increase was projected for 1986.[13] Load factors on the various lines (see Table B-11) would range from .68 to 1.48, with load factors on the Daly City to Concord, Daly City to Fremont, and Richmond to Fremont lines being the most critical. The Lake Point Towers project would not have a noticeable impact on the 1986 load factors, as its proportion of total BART ridership is negligible. Although the projected load factors fall within the range of BART's estimated 1.5 passenger tolerance load factor, this load factor may be exceeded during the peak half-hour periods.

By 1995, with full occupancy of all projects currently under construction, approved or proposed, ridership on individual lines would be increased by an average of 59 percent. This assumes the same annual growth trends as indicated for 1986 and no spreading of the peak period. During this same time period, BART system capacity is expected to increase by about 71 percent,[14] thereby offsetting the ridership growth.

Load factors on the BART lines (see Table B-11) would range from .49 to 1.66, with overloading most critical on the Richmond to

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12 Based on work developed by DKS Associates for California Department of Transportation, I-280 Transfer Concept Program -- Final Working Paper 1.5.6, July 18, 1983.

13 Martin Burkenthal, BART Planning and Analysis, telephone conversation, June 1983.

14 BART 1984 Short Range Transit Plan, June 21, 1984. Assumes completion of train control modifications, fire hardening, the Daly City turnback and Serramonte Yard, and delivery of 150 new C-cars.

Table B-11
PROJECTED BART LOAD FACTORS
PM Peak Period

Location	Routes/Direction	Existing Load Factor[1]	Projected Load Factors[6] 1986 Without Project[2]	1986 With Project[3]	1995 Without Project[4]	1995 With Project[5]
North of MacArthur Station	Daly city to Concord	1.33	1.48	1.48	1.32	1.32
	Daly City to Richmond	1.07	1.17	1.17	1.01	1.01
	Fremont to Richmond	.64	.68	.68	.51	.51
South of Lake Merritt	Daly City to Fremont	1.33	1.39	1.39	1.03	1.03
	Richmond to Fremont	1.12	1.42	1.42	1.66	1.66
West of San Francisco Civic Center	Daly City (all lines)	.73	.75	.75	.49	.49

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1 From Table 2.

2 Assumes a 1.0 percent annual background growth, a 2.7 percent annual transbay growth, a 1.2 percent annual westbay growth due to San Francisco CBD growth and completion and occupancy of all projects in Table 7.

3 Assumes a 1.0 percent annual background growth, a 2.7 percent annual transbay growth, a 1.2 percent annual westbay growth due to San Francisco CBD, completion and occupancy of all projects in Table 7, and Lake Point Towers project.

4 Assumes a 1.0 percent annual background growth, a 2.7 percent annual transbay growth, a 1.2 percent annual westbay growth due to San Francisco CBD, and completion and occupancy of all projects in Table 7 and 8.

5 Assumes a 1.0 percent annual background growth, a 2.7 percent annual transbay growth, a 1.2 percent annual westbay growth due to San Francisco CBD, completion and occupancy of all projects in Table 7 and 8, and Lake Point Towers project.

6 Presumes a 71 percent capacity increase by 1995.

SOURCE: DKS Associates

Fremont line. The Lake Point Towers project would not alter the 1995 load factors due to the small number of BART trips it generates in the peak period, peak direction.

The system capacity increases projected by BART are based on peak hour/peak direction travel, transbay operational constraints, and a constrained fleet size. As a result of these system limitations, and in light of proposed ridership increases, BART has revised their previous service objective standard of a 1.30 load factor.[15] For planning purposes, BART now assumes 1.50 to be the average peak hour load factor which will be tolerated by passengers.[16] To achieve these load factors, passenger loads will have to be balanced among lines. In addition, reassignment of some cars from the Daly City to Fremont lines may be required to alleviate overloading on the Richmond to Fremont line. As a development mitigation measure, spreading of the peak period should be encouraged through employer-based flexible work hour programs to expand the peak load carrying capacity of the BART system.

e. Parking Impacts

The project site currently provides 52 off-street parking spaces, 26 in a surface lot serving the hotel and restaurant guests and 26 in a covered garage reserved for hotel residents/guests. An additional 22 surface spaces, seven marked and 15 unmarked, located on the site serve the existing apartments. As part of the Lake Point Towers project, all surface parking spaces (48

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[15] BART 1982-1986 Five Year Plan, August 1982.

[16] BART 1984 Short Range Transit Plan, July 21, 1984.

total) and the apartment complex will be removed, leaving the 26 underground spaces reserved for hotel guests. The garage entrance and service area would require removal of at least three on-street parking spaces. An underground parking garage to be developed as part of the proposed residential tower would provide 308 new parking spaces.

The residential parking requirement for both market rate and senior housing is one space per dwelling unit. This results in a total parking requirement of 458 spaces. A reduction in senior housing parking requirements of up to 75% may be granted through a conditional use permit. The proposed 308-stall parking garage would meet the requirement for off-street parking stalls if the senior citizen housing parking reduction is granted. [17]

The parking demand of the project has been estimated at 388 spaces (see Table B-12). Standard residential parking demand was based on an estimated demand of 1.03 parking spaces per apartment rental unit,[18] for a total residential demand of 163 parking spaces. The demand for senior housing parking was estimated at 225 spaces, using a demand of .75 spaces per unit (refer to Appendix A, Parking Demand Analysis for Methodology). The senior housing parking demand estimate is based on the assumption that the persons occupying the senior units will be over 60 years of

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[17] The City of Oakland Zoning Regulations, revised June 22, 1982. Sections 7511 and 7519.

[18] "Residential Parking Standard," Planning Department Staff Report, City of Oakland, January 29, 1978, Case File 581-

Table B-12
1986 PARKING DEMAND AND SUPPLY SUMMARY
Lake Point Towers Project Block

	Size	Code Required Parking[1]	Parking Demand	On-Site Supply	Parking Demand Deficit
o Lake Point Towers Site					
Residential Units	158	158	163		
Senior Housing Units	300	300	225	--	--
	TOTAL	458	388	308	80
o Adjacent Parcel: (Not part of Project)					
Hotel (Suites)	44		33[2]	26	7
Restaurant (Seats)	120		60[3]	--	60

1 A reduction of up to 75% in required parking for senior citizen housing may be granted through the City's use permit process. Should this reduction be granted a total of 75 parking spaces would be allowed.

2 Central District Urban Renewal Plan, June 12, 1982, guidelines require .75 parking spaces/room.

3 Jack London Square DEIR, 1984. Assumes a .50 parking space/seat demand derived from peak parking demand rates for restaurants.

age and will be in the upper income bracket. As a result, the auto ownership is likely to be similar to that for standard residential units, at least initially. As the resident population matures, the auto ownership could decline, coming more in line with the minimum code requirements for the site.

Based on the estimated parking demand, the Lake Point Towers project could result in a parking shortfall of 80 spaces for the new development and an additional shortfall of seven spaces for the Lake Merritt Hotel. It has been estimated that an additional 77 parking spaces could be provided in the garage by using tandem parking, increasing the total on-site spaces to 385. This falls short of the project demand by only three spaces. The use of tandem parking would afford flexibility in responding to a potentially fluctuating senior housing parking demand, but would require establishment of valet parking.

The shortfall of on-site parking spaces would increase competition for parking spaces on the street. Within the immediate vicinity of the project, in the residential neighborhoods, on-street, non-metered parking is at or near capacity[19] both during the mid-day and evening periods. Metered parking is readily available within three blocks of the site, providing additional parking capacity during evening hours. During business hours, however, these spaces are more heavily utilized and therefore competition would be greater. The lack of adequate on-site parking residential parking would present significant problems

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[19] A parking area is considered to be at "practical capacity" when it reaches 85 to 90 percent of its actual capacity.

within a neighborhood which already experiences high competition for on-street parking due to shortage of off-street residential parking and its proximity to the downtown.

By 1995, cumulative growth in the Central District would significantly increase parking demand. To isolate the cumulative parking impacts in the vicinity of Lake Point Towers from the remainder of the downtown, the parking demand analysis takes into account the typical walking distances of office workers. Studies in other downtown areas[20,21] indicate that over 90 percent of building patrons will park within 2,000 feet of their final destination. A 2,000-foot radius from the Lake Point Towers site extends to 12th Street in the south, to Franklin on the west, and to 21st Street on the north, and encompasses all of the northern CBD proposed developments. Table B-13 summarizes the cumulative parking impact.

In 1995, the cumulative demand for parking within 2,000 feet of the project would be approximately 7,190 spaces. The projects would provide a total of about 4,055 parking stalls, while removing 480 existing spaces, resulting in a net excess demand of about 3,615 spaces. The remaining downtown projects would create additional demand for 14,280 parking stalls. The supply would be increased by 8,780 new spaces, but 1,390 existing parking stalls would be removed, resulting in a net shortfall of 6,890 parking

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20 Comprehensive Planning Organizations, Centre City Parking Study (San Diego), August 1978.

21 Deleuw, Cather & Company, Downtown Portland Parking Plan, October 1972.

Table B-13
CUMULATIVE PARKING IMPACT [1]
Proposed Projects

		Parking Demand	On-Site Supply[2]	Spaces Removed[3]	Net Excess Demand[4]
o	Lake Point Towers	388	308	26	106
o	Projects within 2000' of Lake Point Towers	7,190	4,055	480	3,615
o	Other Downtown Projects	14,280	8,780	1,390	6,890
	Downtown Totals[5]	21,858	13,143	1,896	10,611

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1 Table entries are parking spaces.

2 Supply is public off-street parking spaces proposed in conjunction with new development.

3 Spaces removed indicates spaces eliminated through project development for which a demand still exists.

4 Excess demand represents the difference between the new parking demand plus the spaces removed (old parking demand) and the proposed parking supply.

5 Includes all projects from Tables 7 and 8 plus Lake Point Towers.

spaces. Accounting for all downtown development, a cumulative shortfall of approximately 10,560 parking spaces would exist. This projected parking deficit would alter parking conditions for residents and commuters in the Central District. Parking rates would increase due to the high demand and some drivers would park greater distances from their place of work. This would potentially result in increased infiltration of "commuter parkers" into the residential neighborhood surrounding the Lake Point Towers project, compounding the local residential parking shortage. A possible mitigation measure to protect the on-street parking in these neighborhoods for residents and guests is to establish a residential parking permit program.

Other responses to the parking shortfall could include mode-shifts of commuters from single-passenger autos to transit or high-occupancy vehicles and development of privately owned and operated parking structures would alleviate the parking shortfalls that would have land use implications.

f. Service Vehicle Impacts

The proposed project would generate about ten service vehicle trips to and from the site per day, with one of these trips occurring during the peak hour. The City of Oakland Zoning Regulations[22] require two off-street loading berths for the amount of residential square footage to be constructed on-site.

The current site plan provides for two off-street loading docks

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22 Section 7521 -- Off-Street Loading Requirements.

directly off 17th Street, at the southwest corner of the site, satisfying code requirements. The loading bays would require service vehicle maneuvering and backing on 17th Street; however, considering the low number of service vehicles and the relatively low traffic volumes on 17th Street, this would not result in major disruption to traffic flows.

g. Pedestrian Impacts

The proposed project would generate approximately 100 pedestrian trips during the PM peak 15 minute period, less than half of which would be external to the site. Currently, sidewalks and crosswalks adjacent to the site are free-flowing during this peak afternoon period.

The most heavily utilized corridor adjacent to the site is 17th Street, with the greatest concentration of activity at the Madison Street intersection, which is the location of an AC Transit downtown shuttle stop. The most heavily utilized corridor for project trips would be 19th Street, which provides direct access to the 19th Street BART station and an AC Transit stop at 19th and Jackson.

All sidewalks in the project vicinity would continue to operate at free flow conditions, with relatively low levels of pedestrian activity. A <u>minimum</u> unobstructed sidewalk width of five feet should be maintained on all sides of the project to accommodate pedestrian flows. The primary issue relating to pedestrian access for the site is safety. New pedestrian trips will be generated across Lakeside Drive, at both 19th Street and 17th

Street, to and from AC Transit downtown shuttle bus stops and Lake Merritt Park. The 19th Street crossing on Lakeside is controlled by a pedestrian actuated signal, but the 17th Street crossing is designated only by a marked crosswalk. With the added traffic from the project the intersection of 17th Street and Lakeside would not meet State signal warrants, although it would meet the 80% level for interruption of continuous traffic. The number of pedestrians crossing the heavily travelled Lakeside corridor is not sufficient to warrant installation of a pedestrian signal at 17th Street; however, the broadness of the street and the speed of cars still makes it difficult for pedestrians to safely cross. Based on factors exclusive of signal warrants, such as safety for elderly people crossing Lakeside and controlling vehicle speed with signal progression, installation of a traffic signal should be considered. Another potential mitigation measure to increase driver awareness of pedestrians at this crossing would be to provide a "pedestrian crossing" warning sign and pavement markings to alert the driver that he/she is approaching a pedestrian crossing area.

h. Construction Impacts

The construction of the Lake Point Towers project is expected to take about 18 months. It is estimated that about 175 construction workers would be employed at the site on any given day.

Based upon the experience of Trans-Pacific Centre Phase I construction site, it appears that roughly 35 to 50 percent of all construction workers would drive their cars to work at the Lake Point Towers project site. This would generate a temporary

demand of up to 90 parking spaces.[23] If the construction site is operated as a "closed site," no construction worker parking would be allowed on-site. The remaining workers would share rides or take transit to the job site. Daily vehicle trip generation during construction would be about 13 percent of the vehicle trips that would be generated when the building is completed and occupied.

The specific street and sidewalk closures for the construction operations are not known at this time, but the following general requirements would be applicable:

- The parking lanes would be removed adjacent to the building during construction.
- One travel lane on one side of the building may be required for additional construction-related uses. Closure of a travel lane on Lakeside should be avoided as the configuration of the street in conjunction with further obstruction would critically restrict driver sight distance and would disrupt traffic operations.
- Sidewalks would be closed temporarily adjacent to the construction site. Temporary sidewalks should be installed.
- No street closures are anticipated at this time; however, temporary closures may be required to place equipment such as a crane.

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[23] DKS Associates estimate assuming 15 percent use transit and 1.7 auto occupancy.

3. Mitigation Measures

a. Measures Included in the Proposed Project

- o A total of 308 on-site parking spaces would be constructed to meet code requirements and in partial fulfillment of the estimated residential, parking demand created by the proposed project.
- o An on-site service vehicle loading dock, serving two vehicles, would be located off 17th Street.
- o Pedestrian access is provided to the residential units from 17th Street and from Lakeside Drive.
- o The existing sidewalk will be maintained, providing a minimum of five feet unobstructed pedestrian walkways along the perimeter of the site.

b. Other Recommendations for Mitigation Measures

- o Provide for 77 tandem parking spaces, with valet parking services, within the parking structure, to ensure parking demand is adequately met on-site.
- o Provide a curbside passenger loading zone to accommodate a minimum of two cars of 17th Street in front of the lobby of the senior housing units.
- o Provide protected pedestrian ways on Lakeside and 17th during construction of the project.
- o Traffic control should be provided when construction requires the closure of any travel lanes.
- o Installation of a trafic signal or provision of pedestrian crossing warning markings on the pavement approaching the intersection of Lakeside at 17th Street as determined by the Department of Public Works.
- o Street improvements necessary to mitigate cumulative CBD traffic growth should be pursued. The City may consider certain street improvements similar to those presented in other downtown EIRs (e.g., 1901 Harrison and Oakland City Center). Contributions towards improvements such as the Madison/10th 12th modifications may be required.

C. MICROCLIMATE

1. Setting

The microclimate impacts of importance to the Lake Point Towers Residential Project are those concerning the impact of the interaction between project buildings and climatic features (e.g. sunlight, temperature, wind) on pedestrians.

Sunlight

Sunlight patterns within Oakland are determined by the location of the sun in the sky and the geometry and height of nearby buildings. In the northern hemisphere, the length of shadows cast by buildings is longest in late fall and early winter, when the sun is lowest in the sky, and shortest in late spring and early summer when the sun is highest in the sky. The position of clouds affects sunlight at ground level. The effect of clouds is often expressed as the "mean sky cover." Sky cover (cloudiness) is at a maximum in winter and at a minimum in September. Clouds in the winter are associated with storms, and in summer are associated with stratus clouds formed within the marine air flow.

Temperature

Mean temperatures in Oakland range from 55 degrees in the winter to 74 in the summer. The seasonal and daily variations of temperature are relatively small, due to the moderating effect of the Pacific Ocean and the Bay. Therefore the warmest month, September, does not correlate with the month of greatest sunshine duration, May. The diminished marine air flow in September results in warmest temperatures and least mean sky cover.

1. Wind

2. Windspeed and direction frequencies are measured at the Alameda
3. Naval Air Station, the closest permanent wind monitoring site.
4. This station is located approximately three miles from the site.
5. The prevailing direction is west, reflecting the location of the
6. Golden Gate. Winds from this direction are also the strongest,
7. averaging 10.1 knots. Winds from the southeast and northwest are
8. also fairly common, because this is the wind direction associated
9. with winter storms.

10. The proposed project site is located on the west shore of Lake
11. Merritt. This site is particularly sheltered from southwest,
12. west, and northwest winds by existing buildings. Most of the
13. buildings near the project site are from two to five stories in
14. height, but a few newer highrises are within a few blocks.
15.
16. 2. Impacts

17. Pedestrian discomfort can be caused by mechanical effects of the
18. wind (buffeting, raising dust, wind-driven rain) or by thermal
19. imbalance (over-heating or over-cooling). In Oakland, mechanical
20. effects can sometimes cause discomfort during extremely windy
21. conditions. Because of Oakland's generally cool weather, how-
22. ever, thermal discomfort can occur at much lower windspeeds.

23. During the warmer days of the year, wind would be desirable to
24. cool pedestrians by evaporation. During most of the year, how-
25. ever, strong winds are not desirable. Thermal discomfort due to
26. cooling by the wind can be counteracted by solar radiation. This
27. points out the importance of sunshine and shelter from the wind.
28.

30.

Locations exposed to the wind and shaded by buildings are seldom comfortable given Oakland's cool temperatures. Pedestrian areas need sunlight and/or shelter from the wind to be consistently comfortable.

Buildings disturb the overall wind field within a distance of a few hundred feet. Some areas near a building will be sheltered and have reduced wind velocities, while other areas may experience increased wind speeds. In extreme cases, a building can accelerate winds to levels that are unsafe for pedestrians. More commonly, winds are accelerated to the point where the comfort of pedestrians is affected.

Ground-level wind accelerations near high-rises are influenced by the following factors:

1. height - in general, the taller the building, the more it is exposed to the wind.
2. width - the wider the building face, the more wind intercepted.
3. complexity - buildings with continuous, unbroken building faces will cause a greater wind acceleration than those with unusual shapes, setback and cut-outs.
4. exposure - a building that is similar in height to surrounding buildings has a lesser effect than a free standing building.
5. siting - buildings with their long axes aligned to the prevailing wind direction will have a lesser impact than those with their narrow axis aligned with the prevailing wind direction.

Given the prevailing west wind, it is known that slab-shaped buildings with the wide face to the west would tend to cause the worst wind accelerations.

The set-back tends to redirect the wind acceleration above ground level. A tower on a low-rise base has a similar effect, elevating wind accelerations above pedestrian level.

The orientation of pedestrian walkways between buildings will affect pedestrian winds. The strongest winds will occur when walkways run parallel to the prevailing wind. Pedestrian winds tend to be lighter when walkways are oriented at an angle to the prevailing direction, or are discontinuous and change directions.

Impact Evaluation of Current Project

The proposed project would involve the construction of two towers that would front 17th Street and Lakeside Drive. Together with the existing Lake Merritt Hotel building, the three buildings would form a "U" with its opening to the northeast. None of the buildings would have a face oriented to the west, the prevailing wind direction. The new buildings would, however, be mostly exposed to winds because they extend well above existing structures nearby. The design is moderately complex, utilizing several setbacks at various levels.

Because of the above factors, the project can be expected to have only a minor effect on ground level winds along sidewalk areas near the site. No hazardous or unusually uncomfortable conditions are expected. The plaza would be protected from prevailing winds by the massing of the project buildings, and can be expected to be comfortable a large part of the time.

One area of concern is the entrance off 17th Street that passes between the Lake Merritt Hotel and the proposed 18-story tower.

The west orientation of this passageway and the funnelling effect of the building faces, make this entrance potentially very windy.

3. Mitigation

The aspect of the proposed project that warrants mitigation is the passageway between the Lake Merritt Hotel and the 18-story tower. Winds at ground-level could be eliminated by making this a covered entryway with a door. Because of the pressure difference between the outside and inside of this door, sliding or swinging doors may not work properly. A revolving door is recommended, because it is not affected by pressure. As this type of door does not provide handicapped access, such access would have to be provided elsewhere.

D. ENERGY

1. SETTING

The Pacific Gas and Electric Company (PG&E) distributes electricity and natural gas to customers in Oakland. The PG&E service area extends into 47 of the state's 58 counties and covers approximately 94,000 square miles of northern and central California. The existing peak electrical consumption within the service area is about 15,000 megawatts. Natural gas consumption is about 809 billion cubic feet per year. Natural gas is currently supplied from California, Texas, and Canada.

Electricity to the project site is distributed through PG&E's Electrical Substation C, located at Second and Grove Streets. The substation's capacity is 180 megawatts and it has an existing peak consumption of 100 megawatts.

2. IMPACTS

Proposed Residential Project

Title 24 does not establish maximum allowable energy consumption standards for residential units. Instead, the State energy regulations are set for individual components of residential construction or equipment such as water heating equipment, air conditioning, or wall or ceiling insulation. Therefore, there is no prescribed standard by which to measure the energy consumption of the residential components of the project.

Energy consumption factors for housing used in the Oakland City Center DEIR were 5,000 KwH of electricity and 800 therms of

natural gas per residential unit. Using these rates, the Lake Point Towers total annual consumption would be about 2.3 million KwH of electricity and about 366,400 therms of natural gas. Car travel induced by the project would result in approximately 400 gallons of gasoline consumed per day for the proposed project.

3. MITIGATION

Title 24 standards, which are subject to improvement and revision, were derived after comprehensive analysis and active participation by individuals and companies concerned with energy conservation, land development, building, and governmental regulation. The standards are designed to provide sufficient mitigation of energy impacts.

Pacific Gas and Electric Company has a wide variety of programs designed to reduce gas and electric consumption. Here is a brief description of some programs available through PG&E:[3]

- o Load Management. These programs are designed to shift the use of electricity away from peak use periods. This helps assure that customer needs will be met during periods of heavy electric loads and reduces the need for new power plants. Many load management programs are a voluntary partnership between PG&E and participating customers or communities; incentives are offered in exchange for PG&E's ability to reduce predetermined loads during critical periods. Residential

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[3] 1984 Energy Management and Conservation Activities Executive Summary, Pacific Gas and Electric Company.

and non-residential time-of-use rate schedules offer customers more rate and service options.

Mitigation measures identified in the transportation section of this report which would reduce the number of vehicle miles traveled would concomitantly reduce gasoline consumption.

E. GEOLOGY

1. SETTING

The Woodward-Clyde Consultants' Preliminary Geotechnical Evaluation of the Lake Point Towers Site Results Report, June 1984, is the prime source of information for this section.

The discussion and preliminary recommendations presented in the consultant's report were based on the assumption that the proposed site's soil conditions do not deviate appreciably from those disclosed in borings drilled at the adjacent building sites. The information presented by Woodward-Clyde was intended for use in preliminary planning, costs studies, and site evaluation, but not for final design. They recommended that a more detailed field exploration and testing program be undertaken in order to develop criteria for the final design.

Project Site and Subsurface Conditions

The project site is presently occupied by the Lake Merritt Hotel, restaurant, and Venetia Apartments. The ground surface slopes downward from the high point of the site at the corner of Madison and 17th Streets, which is about elevation 25±, to Lakeside Drive to the north and east, which are about elevations 7 and 11, respectively.

The project site subsurface conditions consist of three geologic formations: Merritt sand; San Antonio clay, gravel, and sand; and Alameda clay. The project site's shallowest formation is the Merritt sand, which ranges in thickness from 15 to 24 feet in high areas and Ø to 5 feet in low areas. The next formation is

the San Antonio clays, gravels, and sands extending down to about 90 to 100 feet below existing grade. The Alameda clay follows the San Antonio soil formation and extends down to bedrock at approximately 500 feet from the ground surface. Groundwater levels were located from boring tests as high as 13 feet below grade in the high area and 5 to 6 feet in low areas of the site. The groundwater levels in the higher parts of the site may vary several feet between winter and summer. The groundwater levels nearer the lake water levels will likely remain relatively unchanged.

The project site, like the entire Bay Area, is in a seismically active region. There are three active faults in the Bay Area capable of producing ground shaking on the project site. The San Andreas Fault, the Hayward Fault and the Calaveras Fault are located about 15.5 miles southwest, 3.5 miles northeast, and 13.5 miles northeast of the project site, respectively (see Figure 24). These faults have produced earthquakes of Richter magnitude 8.3 and 6.7. It is estimated that these faults are capable of causing earthquakes of Richter magnitude 8.3 from the San Andreas and 7.5 from the Hayward and Calaveras faults.[1]

In the event of an earthquake along active faults in the vicinity, the project site would be subjected to "very strong to

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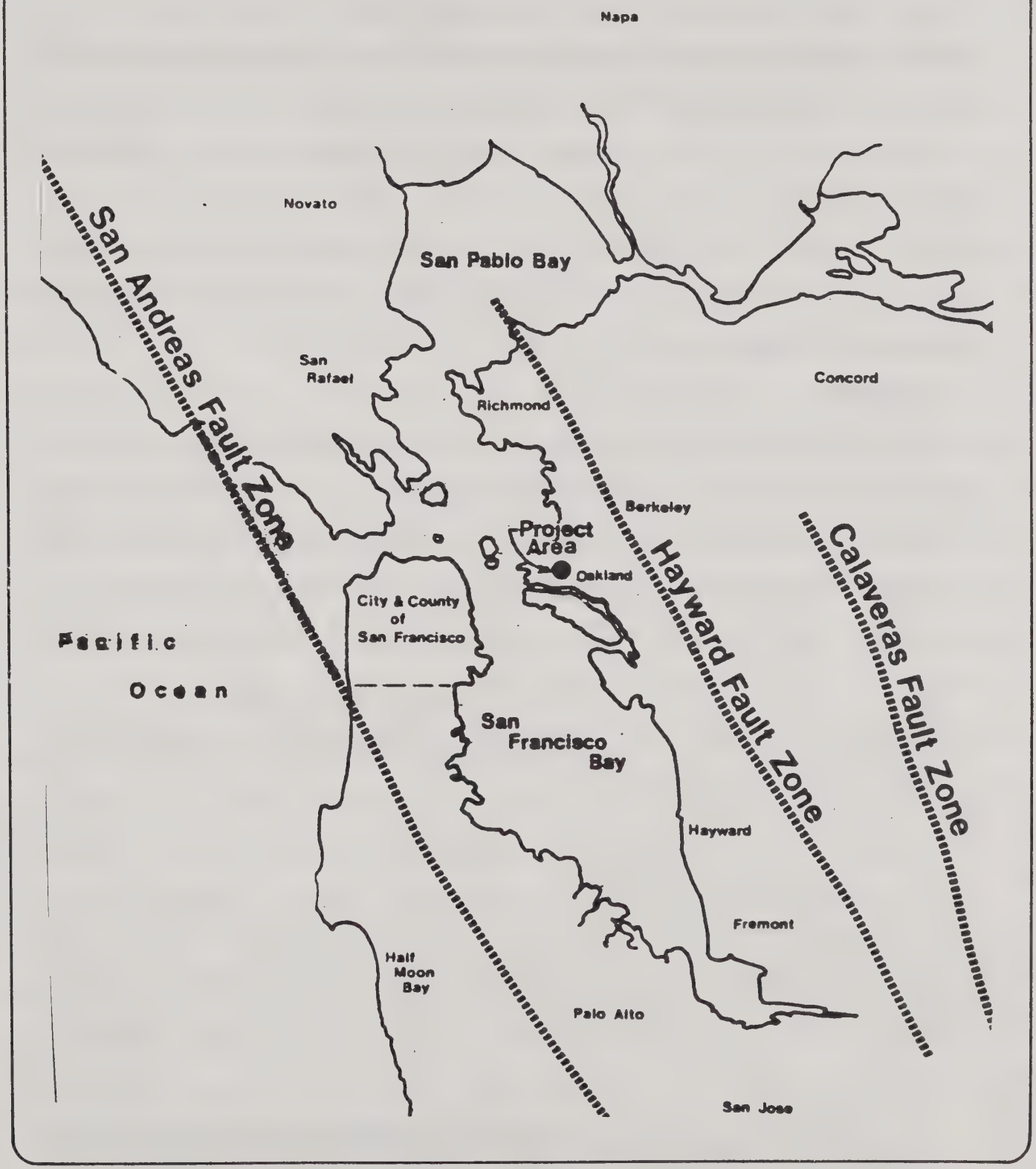
[1] Greensfelder, R. W., Maximum Credible Rock Acceleration from Earthquakes in California, California Division of Mines and Geology Map Sheet 23, 1974.



ACTIVE FAULT ZONES IN THE SAN FRANCISCO BAY AREA

N

0 2 4 8
MILES

SOURCE: U.S. Geological Survey/Brown, 1970

Figure 24

JEFFERSON ASSOCIATES INCORPORATED

violent" groundshaking.[2] It is estimated that in the event of a maximum credible earthquake, the site would experience ground acceleration of Ø.5g.[3,4] This estimate is based on an analysis of the location of faults, the behavior of the faults, and the maximum credible event for each fault. Estimating the maximum credible ground acceleration from earthquakes is important for the design of buildings, to assure that they are "elastic" enough to withstand shaking.

2. IMPACTS

The Woodward-Clyde geotechnical study assessed six geologic-hydrologic concerns: Subsurface Conditions, Heave Estimates, Settlement Estimates, Foundations, Basement Constructions, and Excavation Shoring. They interpreted the existing geologic, hydrologic and seismic conditions of the area to impose constraints on the project that would require special design considerations. Their conclusions and recommendations were based on the following observations.

a. Subsurface Conditions

Excavations made below Elevation 1 near the lake will probably encounter groundwater. The project will require adequate construction shoring and dewatering to facilitate the construction

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[2] Borcherdt, R.D., et al., Maximum Earthquake Intensity Predicted for Large Earthquakes, Southern San Francisco Bay Region, U.S. Geological Survey Map MF-709, 1975, Sheet 2.

[3] Greensfelder, op. cit.

[4] g equals the acceleration of gravity.

of basements below the groundwater level. The groundwater will also result in permanent hydrostatic uplift pressures if the basements are constructed to be waterproof.

b. Heave Estimates

Removal of the project site soils during excavation will cause heave of the unloaded subsoils. The Kaiser and Ordway building geotechnical reports estimate that every ten feet of excavation causes 1/2 to 3/4 inch of heave. After the tower foundations are constructed and the load applied, the heave will be recompressed and additional settlement will occur due to net downward foundation pressures causing consolidation of the clays within the influence of the foundation system.

c. Settlement Estimates

Woodward-Clyde Consultants estimated that for a mat foundation system, the tower settlements would be between 3 and 3-1/2 inches; of this, 1 to 1-1/2 inches would be recovery of heave, 1 to 1-1/2 inches elastic compression and consolidation during construction, and less than one inch would be post-construction settlement. The magnitude of settlement for a spread footing foundation system for the tower would be similar to the mat settlements above, except that there would be a higher potential for differential settlement between columns.

The preliminary geotechnical report predicts that little or no settlement would occur in the parking structure outside the tower footprints. This potential differential settlement between the

tower and parking outside the tower would have to be accounted for in the design.

d. Foundations

The San Antonio stiff clay or dense sand formation should have sufficient strength to support the proposed structures on spread footing or mat foundations provided that at least two basement levels are constructed below existing grades. The design bearing pressures for footings or mats founded on these soils should be about 6,000 psf for dead plus live loads for spread footings and 4,000 psf for a mat foundation. High-rise towers founded with a single level basement or on-grade may require pile foundations to limit building settlements.

e. Basement Construction

There are no subsurface conditions at the site that preclude constructing two or three basement levels. The most significant factors affecting deep basement construction are temporary and permanent control of groundwater and the protection of adjacent buildings and streets during construction. There factors present design and construction problems, but they are not unique or impossible problems to overcome.

- Where the building excavation extends below the existing hotel building, it will be necessary to protect the building from detrimental lateral and vertical movement caused by the excavation.

- Another important consideration in evaluating basement depth is the control of groundwater. When the basement excavation extends below the natural groundwater level, it will be necessary to control the flow of water into the excavation.

- Basement walls will be subject to lateral earth pressures acting upon the walls by the native and backfill soils.

f. Excavation Shoring

The Woodward-Clyde report recommends that the system of basement construction shoring should be drilled-in soldier piles and lagging. The soldier piles may be restrained by tiebacks. It is assumed that typical shoring pressures on drained cantilever walls which are free to deflect would be 30 pcf. In tied-back areas where very little shoring deflection is permitted, pressures of about 50 pcf would be typical.

The report also states that construction dewatering may consist of a series of shallow wells to draw down the water outside and inside the shoring.

3. MITIGATION

The preliminary geotechnical report prepared by Woodward-Clyde anticipated general problems that could be encountered both during and after construction. The report recommended that prior to detailed project design, a detailed geotechnical engineering study be prepared, including a seismic design study. In addition, it recommended the following measures in order to minimize

the potential impacts identified.

a. Subsurface Conditions

- o A permanent subdrainage system would be feasible if the basement does not exceed two subsurface levels below existing grades.

b. Heaveand Settlement Estimates

- o The mat foundation system should have the ability to reduce the potential for differential settlement between columns.
- o The potential differential settlement between tower and parking outside the tower could be mitigated by structural separation, or possibly the connections could be made later in the construction period to allow most of the settlement to occur prior to connection.
- o If pile foundation systems were used for the tower, the pile settlement would be about one inch and differential settlement between the center of the tower and corners could be on the order of 1/2 to 3/4 inch.

c. Foundations

- o High-rise towers founded with a single basement level or on-grade may require pile foundations to limit building settlements.
- o Precast concrete piles could be used to support the structure loads by friction mobilized between the pile shaft and the surrounding soil.
- o Friction piles can be used to withstand hydrostatic uplift pressures acting on structures founded below the water level.
- o A design shaft resistance on the order of 1,000 psf for dead plus live load can probably be used.
- o Therefore, a 60- to 65-foot long, 14-inch square concrete pile would support about 150 tons.

d. Basement Constructions

- The building can be protected from detrimental lateral and vertical movement due to the basement excavation by underpinning the building foundations.

- Water flow into the basement excavation could be controlled by lowering the water levels at the site with a series of dewatering wells.

- Permanent control of groundwater for deep basements can be accomplished in two ways. One method is to design the basement floor slab and walls to be water-tight and to resist the hydrostatic uplift pressures. The second method is to instal a permanent drainage and pumping system beneath the basement floor slab to eliminate hydrostatic uplift pressures.

e. Excavation Shoring

- A blanket drain at the bottom of the excavation could provide temporary dewatering below the mat or floor slab during construction.

- Deep dewatering wells are not recommended for this site due to possible effects on adjacent buildings.

f. Seismicity

- The design of the buildings should be able to accommodate the groundshaking that could occur at the site in the event of a major earthquake along the nearby recently active fault lines.

F. VISUAL QUALITY, URBAN DESIGN, SHADE AND SHADOW

1. SETTING

a. Surrounding Neighborhood

A variety of multi-family residential building types ranging from two-story converted residences to 16-story concrete and glass slab towers are contained within this neighborhood. There are also six- to ten-story apartment blocks in a variety of styles which date from the 1920s, and four-story stucco boxes built in the 1950s and 1960s. Scattered street-level neighborhood commercial uses dot the area, but few, if any, other commercial uses or buildings occur in the immediate vicinity. Recent high-rise office developments to the north and west are visible from this neighborhood. The most visible from the project site is the recently completed 22-story office tower at 1800 Harrison Street. Its box-like tower portion, sheathed in white pre-cast concrete and glass, can be seen from various points around the site, particularly along 17th and 19th Streets.

No single residential building type dominates the neighborhood. There are buildings dating from the apartment construction boom of the 1920s as well as buildings from the 1950s and 1960s. Buildings dating from the 1920s include the Regillus, at 200 Lakeside Drive, an example of Renaissance Revival style, and its neighbor at 244 Lakeside, an Art Deco interpretation of the Mediterranean/Spanish tradition widely adapted for apartment buildings in this neighborhood. Both these structures, which occupy prominent lakeside sites, are set back from the street by well-maintained, landscaped forecourts.

Tudor Hall, located immediately west of the project site at 17th and Madison Streets, is an example of the English Tudor style. Faced almost entirely in red brick and complete with mock half-timbered gables, its contrasting colors and textures differentiate it from the pastel, smooth-stuccoed buildings such as the Lake Merritt Hotel. The Lake Merritt Hotel, another example of 1920s architecture, is discussed in more detail later in this Section.

Along Madison, 17th and Jackson Streets are numerous low-rise apartment buildings dating from the 1950s and 1960s. These three- and four-story structures are generally flat-roofed stucco boxes and may include projecting balconies, roof overhangs or bay windows. Other common features include the incorporation of parking within the structure, at or slightly below grade, and a landscaped setback area averaging ten to fifteen feet in depth. The design of the parking is often expressed as a visually distinct podium which may have a larger footprint than the residential floors above.

A number of high-rise towers are also located in the neighborhood. West of the site on 19th Street are two 1960s-era concrete and glass towers. The 12-story high-rise building located east of Jackson Street is distinguished by its sweeping entry and curving facade oriented to the Lake. An L-shaped two-tower structure located at 17th and Alice Streets is also 12 stories high. More recently, high-rise towers have been constructed

south of the project site along Lakeside Drive. They are characteristically set back some distance from the street and are of similar heights. Older low-rise structures are interspersed between these towers.

Since the neighborhood contains a variety of architectural styles, its character relies more on consistencies in building scale, form, and surface treatment rather than on a dominant architectural style. Common features shared by the various structures, regardless of their period of construction, include the following:

1. Landscaped building setbacks which vary from approximately five to fifteen feet.

2. The use of smooth or lightly textured surface materials, primarily stucco, rather than rough-textured or slick materials.

3. Light pastel colors for the body of the building with darker, richer accent colors and/or materials, particularly at the base.

4. Ground floor levels (or occasionally basements) used for parking, which are accessible via a common drive or entry, and usually concealed from view behind a landscaped setback area. The parking level is a podium on which the residential floors are stacked.

In addition to the built environment, the Lake Merritt residen-

tial neighborhood also derives much of its character from the natural setting. Both 17th and Madison Streets frame view corridors to Lake Merritt and Lakeside Park. Lakeside Drive offers a continuous panorama of the Lake, the Park and the opposite shoreline, and its own edge is treated as a landscaped parkstrip. Even where the Lake is not visible, certain blocks, particularly along 17th Street, are heavily planted with deciduous street trees which provide a seasonally changing amenity and visual link with the landscaped edge of the Lake. Additionally, landscaping occurs in the spaces between buildings, although these spaces are often narrow, further reinforcing the green and leafy character of the neighborhood.

b. Project Site

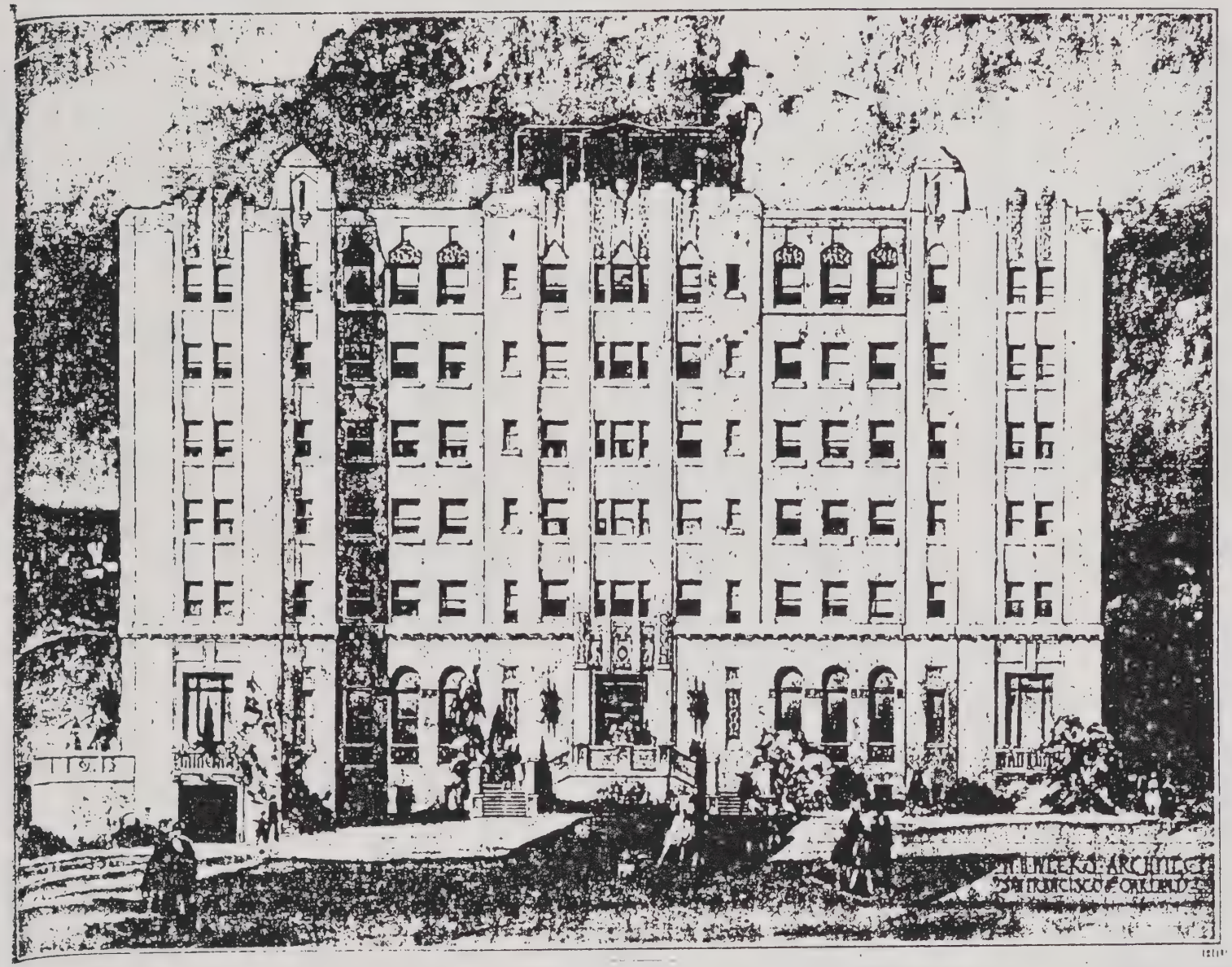
The project site includes most of the block bounded by Madison and 17th Streets and Lakeside Drive. This block includes the Lake Merritt Hotel. The hotel will not be demolished, although a portion of the attached restaurant will be removed. One other structure, the 28-unit Venetia Apartment Building, occupies approximately 20 percent of the block. This structure is to be demolished. The remainder of the site is either used for hotel and apartment parking or is vacant. A number of mature trees grow on the site, including a row of locusts, several palms, pines and cedars.

Lake Merritt Hotel

The Lake Merritt Hotel was built in 1927 as a residential hotel called the Madison-Lake Apartments. Its six-story Mediterranean/ Art Deco design was the work of William H. Weeks, a prominent Bay Area architect whose work included the Hotel Leamington and Lakehurst Residence Club as well as buildings throughout northern California. The dining room was a later addition built in 1934; the architect or designer is unknown.

The building is an example of the spacious and well-appointed apartments and apartment hotels which were developed in this neighborhood during the 1920s. The design of these structures continued the tradition of gracious in-town living by well-to-do Oaklanders which began with the early lakeside mansions typified by the nearby Camron-Stanford house. The Hotel's architectural style is a combination of the contemporary Art Deco and the more traditional Mediterranean styles. Much of the building's ornament, particularly the elaborate cast terra cotta panels surrounding the recessed entry and the wrought iron balconettes, is derived from the Mediterranean style.

The building has a strong vertical articulation characteristic of the Art Deco style. This vertical emphasis is accomplished by the use of projecting symmetrical end piers which are slightly taller than the building's central pavilion. It is further emphasized by a column of central paired windows on each pier, capped at the parapet by a projecting torch-like final. This same device is used at the central bay formed by the entry and its flanking windows to provide vertical emphasis at the center



THE MADISON LAKE HOTEL APARTMENTS
1927

Figure 25

of the pavilion. The south elevation of the building employs an asymmetrical projecting chimney-like form and a stair tower which reinforces the vertical plane. The vertical emphasis achieved through the use of these architectural devices is in contrast to the unadorned east facade. This facade still has a predominantly horizontal composition.

The 1934 dining room addition is a visual contrast to the main body of the Hotel. Its contrasting shape, color and materials, and the discontinuity between floor levels and ceiling heights between the main structure and addition, exemplify its lack of continuity with the main structure. The addition also has a long, low horizontal emphasis in contrast to the vertical emphasis of the main structure. Its light painted concrete base and the dark reflective glass windows reinforce the horizontal composition of the dining area.

The building as originally designed by Weeks included a narrow open air terrace along the north side where the dining room is currently located (Figure 25). This terrace was similar in scale to that of the neighboring Tudor Arms apartments across Madison Street, and likewise was a continuation of the building's base.

The Lake Merritt Hotel was surveyed by the Oakland Historical Society and given a significance rating of "B". This rating applies to properties which have a significant historic or architectural value but which are not sufficiently important to be rated "A". However, no official determination has been made regarding the Hotel's eligibility for the National Register.

The Venetia Apartments

The other existing building on the project site is the Venetia Apartments. This three-story apartment house, which contains 28 units, was built between 1912 and 1913 and designed by architect C. W. McCall. Though considered a rather unique design because of its unusually severe interpretation of the Arts and Crafts style, the building was given a rating of "C" (secondary importance) by the Oakland Cultural Heritage Survey.

2. DESIGN IMPACTS

Since the project is located within the S-4 Design Review Combining Zone it will be evaluated against criteria outlined in the Design Review Section 9304 of the Zoning Regulations. In addition to the Section 9304 there are specific criteria for high-density housing projects.[1] Evaluation of the proposed design incorporates criteria from both texts. The general design criteria address the following key issues relating to the potential visual impacts of the proposed project:

a. The relationship of the proposed structure to its surroundings as an element on the skyline and as it affects existing view corridors.

b. The relationship of the proposed structure to other buildings in the vicinity and to pedestrians in terms of site planning (including landscaping), massing (bulk and height), and surface treatment, including

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[1] These criteria are contained within the publication entitled "Design Review Criteria for High Density Housing" adopted by the Oakland City Council on May 4, 1982 (Council Resolution Number 60586 C.M.S.).

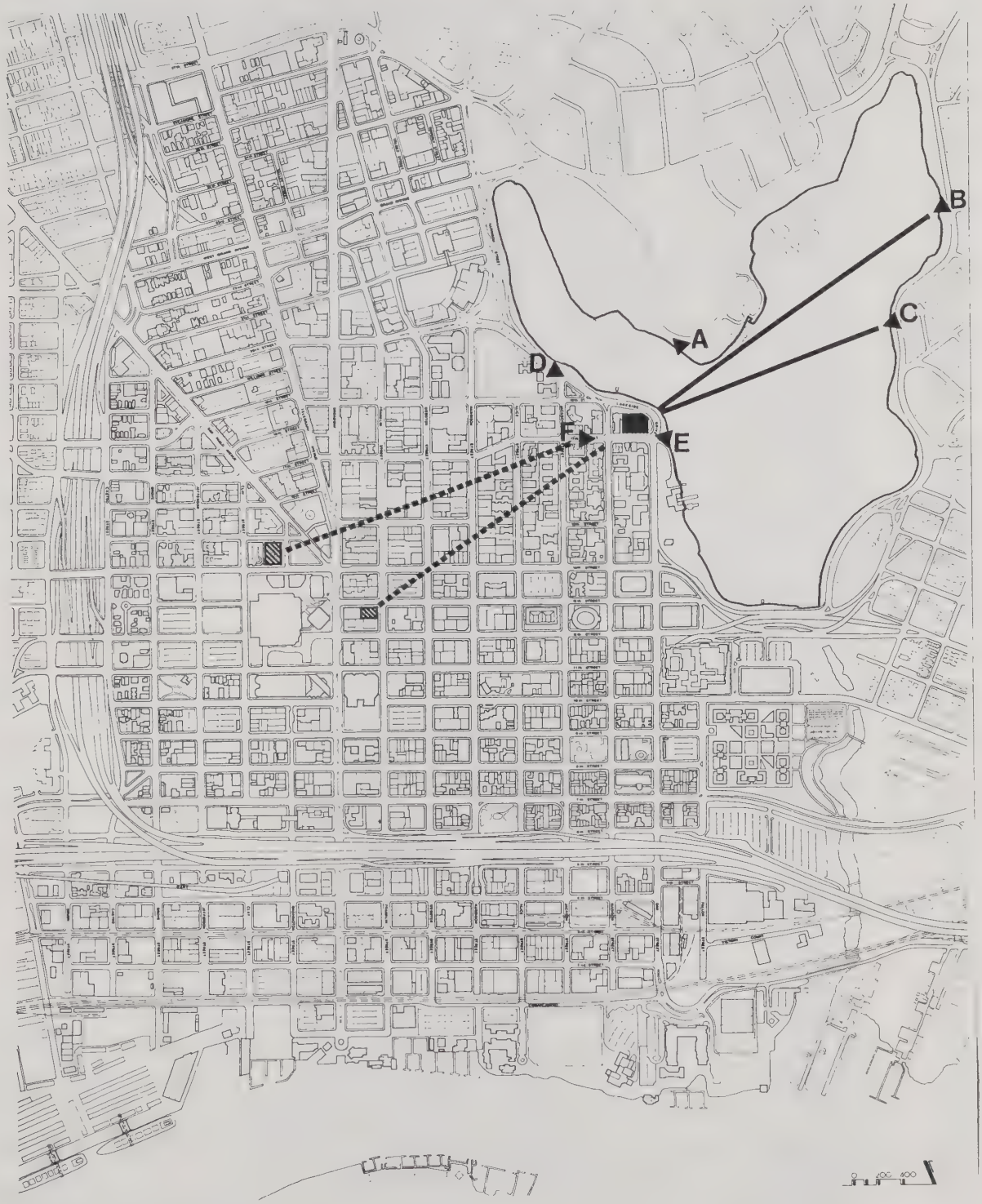
materials, color and texture, and architectural compatibility, in particular with the existing Lake Merritt Hotel building.

c. The quality of the living environment with the provision of adequate sunlight, appropriate building and room orientation, and privacy and quiet for residents.

A discussion of the proposed project's conformance with the general design criteria, including a shade and shadow analysis, follows. Design guidelines have also been developed in order to mitigate the impacts of the proposed project on the visual quality and design of the area.

a. Relationship to Surroundings: Skyline and View Corridors

To assess the impacts of the project on the present skyline profile and existing view corridors, views of the project from a number of key vantage points were studied, as indicated in Figure 26. Vantage points around Lake Merritt (Points A, B, and C) were selected for their proximity to the site or their views of familiar landmarks, the Oakland City Hall and the Tribune Tower, which might be obstructed by the project. Vantage points in the vicinity of the project (Points D, E, and F) were selected to illustrate views of the project from major pedestrian and vehicular approaches, along Lakeside Drive and 17th Street, where view corridors to the Lake might also be impacted. It is understood that there are many viewpoints that are not impacted by the project. The purpose of this analysis is to identify areas that are impacted.



SOURCE: WALLACE, ROBERTS, AND TODD

VANTAGE POINTS- VIEW CORRIDORS

▲▲ VANTAGE POINT

——— LINE OF SIGHT

..... VIEW BLOCKED BY PROJECT

Figure 26

Views of the project from the designated vantage points along the lake shore (Figures 27– 29) illustrate the scale of the project relative to surrounding buildings. As View A (Figure 27) indicates, the project is not substantially taller than the line of residential towers along Lakeside Drive, and is at a lower height than some of the nearby office buildings.

From Vantage Point B (Figure 28) the project could partially obstruct views of the Tribune Tower. From Point C (Figure 29) views of the City Hall Tower would be partially obstructed by the project. Views to these landmarks have been blocked by other buildings from many other vantage points around the Lake. They are also visible from other locations.

The bulk of the proposed project is evident in the short range views, particularly from Point D, northwest of the project site on Lakeside Avenue (Figure 30). The closest building to the site with a similar bulk is located at 17th and Alice. Buildings immediately surrounding the structure are smaller in scale and mass.

View E (Figure 31) illustrates the project's impact on existing views to and from the Lake Merritt Hotel. Views to the Lake from some other surrounding buildings will be obstructed by the project, but some of these views are already blocked by existing vegetation and the Venetia Apartment Building. When viewed from this general direction (View E), particularly southward towards the Lake Merritt Boathouse, the building's overall bulk will be the most apparent because both legs of the L-shaped tower will be

VIEW A: PROJECT SITE FROM LAKESIDE PARK

SOURCE: WALLACE, ROBERTS, AND TODD

Figure 27

VIEW B: PROJECT SITE FROM LAKESHORE AVENUE

Approximately 50 feet North of Brooklyn Avenue

SOURCE: WALLACE, ROBERTS, AND TODD

Figure 28

VIEW C: PROJECT SITE FROM LAKESHORE AVENUE

Approximately 30 feet North of Hanover

SOURCE: WALLACE, ROBERTS, AND TODD

Figure 29

VIEW D: PROJECT SITE FROM LAKESIDE DRIVE AND JACKSON STREET

Figure 30

SOURCE: WALLACE, ROBERTS, AND TODD

LAKE POINT TOWERS

VIEW E: PROJECT SITE FROM LAKESIDE DRIVE AT 17TH STREET

SOURCE: WALLACE, ROBERTS, AND TODD

Figure 31

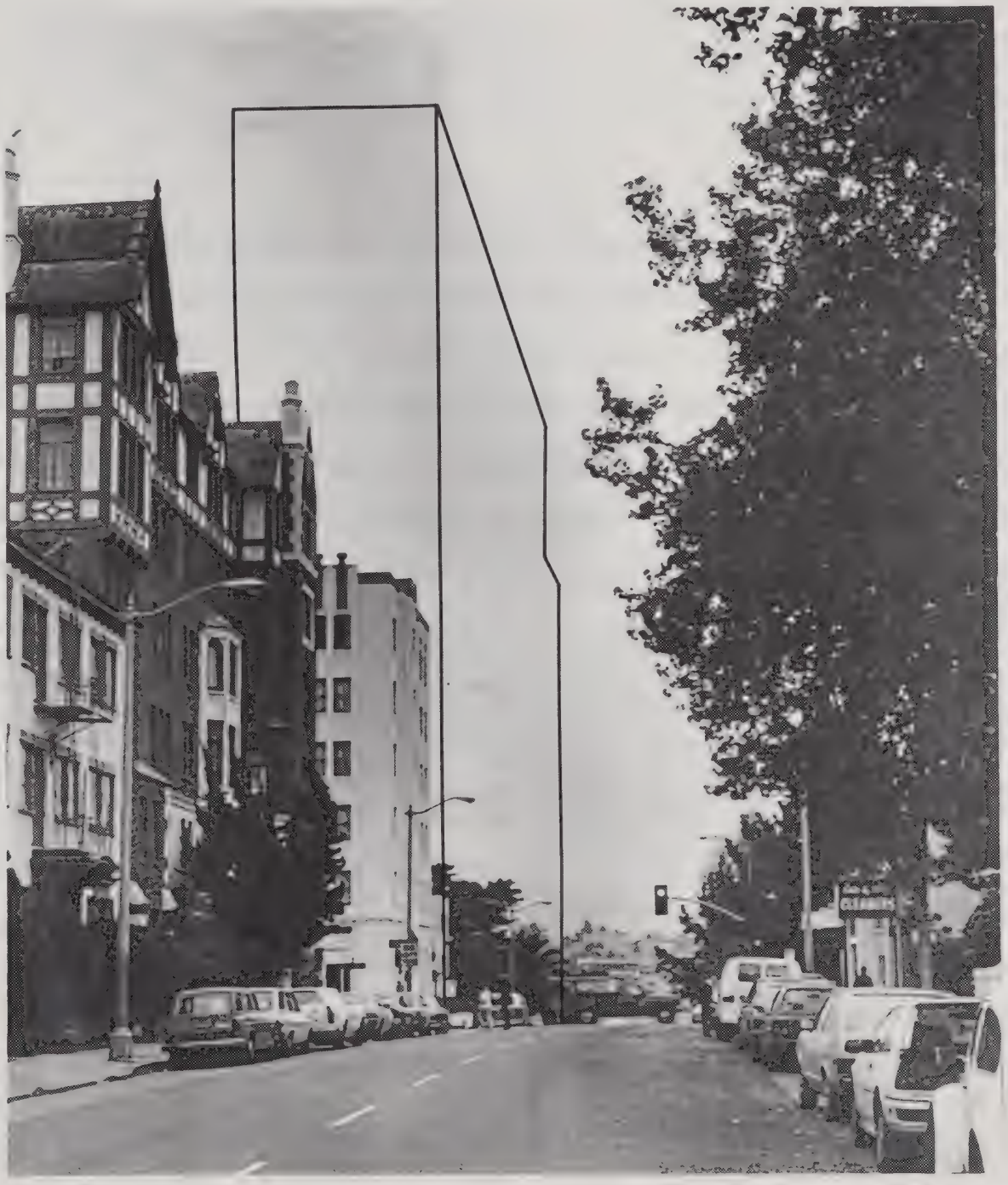
visible. Although somewhat wider and shorter than the proposed project, the L-shaped residential tower at the northeast corner of Alice and 17th Street has a similar look. When viewed from the west on 17th Street its overall bulk is very close to that of the Lake Point Towers project.

The proposed tower, when viewed from Vantage Point F (Figure 32), will reduce the amount of visible open sky towards the Lake, but will not obstruct views of the water.

These view studies indicate that the project as designed will block some existing views and view corridors, and will alter the skyline profile in the vicinity of the project site. It would also create a strong edge on the west shore of Lake Merritt.

b. Relationship to Other Buildings: Site Organization, Massing, Surface Treatment, Architectural Compatibility

The organization of the architectural elements of the project on the site does not differ dramatically in concept from that of the other buildings in the vicinity. The tower elements are organized above a parking podium and are set parallel or perpendicular to the street wall along 17th Street (see Figure 17). However, there is one key difference with regard to site organization between this project and other similar size buildings in the neighborhood. This is in regard to building setbacks. While this project provides setbacks along Lakeside Drive, no setback is provided along 17th Street. As a result, ground level landscaping along 17th Street could be less than that usually found within the general neighborhood and a definite contrast to the



VIEW F: PROJECT SITE FROM 17TH ST NEAR JACKSON STREET

Figure 32

SOURCE: WALLACE, ROBERTS, AND TODD

existing setbacks of the buildings directly across the street from the project. Setback areas usually provide an opportunity to screen parking podiums and accentuate pedestrian entries. Setbacks also serve to relieve the canyon effect on narrow streets.

With respect to pedestrian access, three access points are proposed, one from Lakeside Drive and another two from 17th Street. The stairway down to Lakeside Drive from the lowest terrace level is not readily evident because its scale is much smaller than the terraces. This is an intentional design mechanism intended to increase the residents' sense of security. The principal pedestrian and vehicular access entry to the building occurs from 17th Street. This concentration of pedestrian and vehicular entries along 17th Street was a recommendation of the traffic consultant, DKS Associates. Two separate lobbies and entries are provided: one, designed specifically for elderly residents, is at grade level, while the other, slightly below grade, is for the market-rate housing residents. These are separated by the vehicular entry to the parking garage. The loading dock also fronts on 17th Street.

The location of both the garage and service entries for vehicles along the same frontage as the pedestrian entries could create some conflicts between pedestrians and vehicles, particularly if service vehicles park across the sidewalk. The pedestrian entries, treated as two-story volumes on the interior, are not clearly expressed as such on the exterior elevations, particularly the elderly entry lobby. They are not given much

prominence as elements of the facade.

The building mass will be most noticeable to pedestrians along 17th Street. The structure has been stepped back along Lakeside Drive through a series of terraces, which reduces the building mass along Lakeside. The building wall along 17th Street would extend vertically approximately 170 feet and continue horizontally for close to 200 feet before stepping down in height. The height of the building is similar to surrounding buildings and is not in itself a negative impact. The location of the structure's south wall so close to the sidewalk could, however, create an overpowering presence to the pedestrian.

The proposed use of plaster wall panels with a sand stucco finish for the exterior of the building is compatible with the predominantly Mediterranean character of the Lake Merritt residential neighborhood. No information has yet been provided regarding other materials, such as type and color of window glass and trim elements, balcony and terrace railings.

c. Quality of Living Environment: Building Orientation, Provision of Sunlight

The orientation of the building on the site would provide a relatively high quality living environment from within the public rooms and dwelling units, with most enjoying views of the Lake. Though many of the efficiency units are quite compact inside, particularly those with balconies, several lounges and a communal dining room would provide additional living space for the residents. Indoor recreational areas are also to be provided.

The shared open spaces within the project consist of terraces and roof gardens. A series of three terraces step down toward the Lake from the center of the block. The uppermost terrace occupies the roof of the dining room and recreation room. It is lined on the south side with apartments, and it is not apparent from the current plans how it will be accessible to residents of the project.

The middle terrace is located on the roof of the parking podium and would be immediately accessible from the main public room on the second floor of the building. Exterior stairs lead from the middle to the lower terrace. From that level, another exterior stair would lead down to the ground. There is also a terrace along the eastern edge of the building. This terrace is lined by office spaces. In addition to the terraces, a roof garden with swimming pool is provided on the lower tower roof with access from the 15th floor elevator lobby. The following shade and shadow analysis discusses the shading impacts of the buildings on the terraces

d. Shade and Shadow Analysis

Since the project site encompasses almost an entire block bounded on two sides by open space and on the other two by relatively low structures, shading from surrounding buildings is minimal. The only appreciable shading of the site by those buildings occurs in the late afternoon when the Lake Merritt Hotel casts a shadow on the western portion. The most significant shading impacts on the site and its surroundings will result from the project itself.

In relationship to land uses surrounding the site, the shoreline park along Lake Merritt is the most most heavily used public area closest to the site. Located across Lakeside Drive to the east and north of the site, this park is linear in configuration and is generally less than fifty feet in width along this frontage. Its pathways are heavily used by walkers, joggers and cyclists.

Although passive use of this particular area of the park is less than that within the larger expanses of open space, because it is a public park, shading impacts resulting from the proposed project should be evaluated.

Within the project itself, the areas most impacted by the project's shade and shadow patterns are the central terraces. These terraces would be surrounded on three sides by taller structures: the proposed L-shaped residential tower to the east and south, and the existing hotel building to the west. The terraces step down toward Lake Merritt to the northeast and would be open to sunlight and views principally in that direction. The rooftop garden swimming pool area and the eastern terrace would, however, have a substantial amount of sunlight.

Assessment of the shading impacts of the project was conducted by analyzing the shadow patterns which would result from the project and surrounding buildings at three critical times of the year at three-hour time intervals: 9:ØØ am, noon, and 3:ØØ p.m. (Figures 33– 35).

The critical times of year for which shadows are illustrated include the following:

- June 21, the summer solstice, when the sun angle is highest and shadows are at a minimum
- December 21, the winter solstice, when the sun angle is lowest and shadows are at a maximum, and
- September 21, the fall equinox, which represents the mid-point between the solstices.

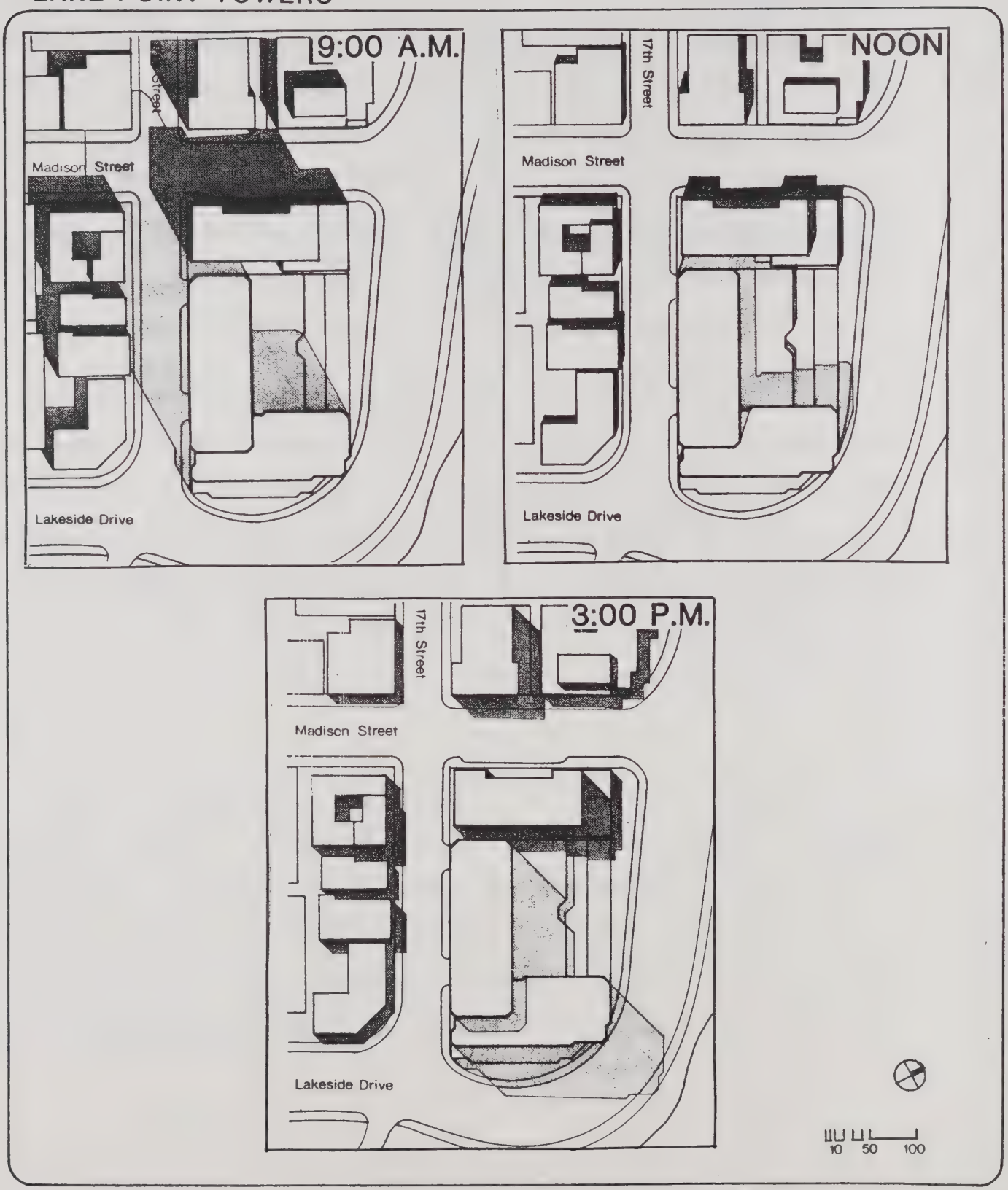
In each case the shadows illustrated occur at clock time, not solar time. On December 21 these times coincide, but in June and September when Daylight Savings Time is in effect, clock time is one hour ahead of solar time. Therefore, shadow lengths would continue to recede until around 1:00 pm, when they would reach their minimum.

The shadow diagrams for September 21 also provide information on sun/shade conditions in the spring, since sun angles and shadow lengths are identical at the fall and spring equinox (March 21). However, since Daylight Savings Time is not in effect on March 21, the shadows illustrated would represent 8:00 am, 11:00 am, and 2:00 pm on that date.

- **Summer/June 21**

The following shadow diagrams illustrate the best-case condition in terms of the project's impact on its own open spaces. Roughly half the area of the central terraces would be in sun at the hours of 9:00 am and 3:00 pm with close to two-thirds or more of the area open to sun during the noon hour. The eastern podium and tower roof terraces would both receive sun during the morning and well into the afternoon.

Beyond the boundaries of the project area, early morning shadows would shade both sides of 17th Street but would begin to recede by mid-morning. No significant shading of the lakeshore would occur until late afternoon. Impacts on surrounding residential buildings and their open spaces would be minimal.



SHADE AND SHADOW DIAGRAMS
SUMMER/JUNE 21

SOURCE: WALLACE, ROBERTS, AND TODD

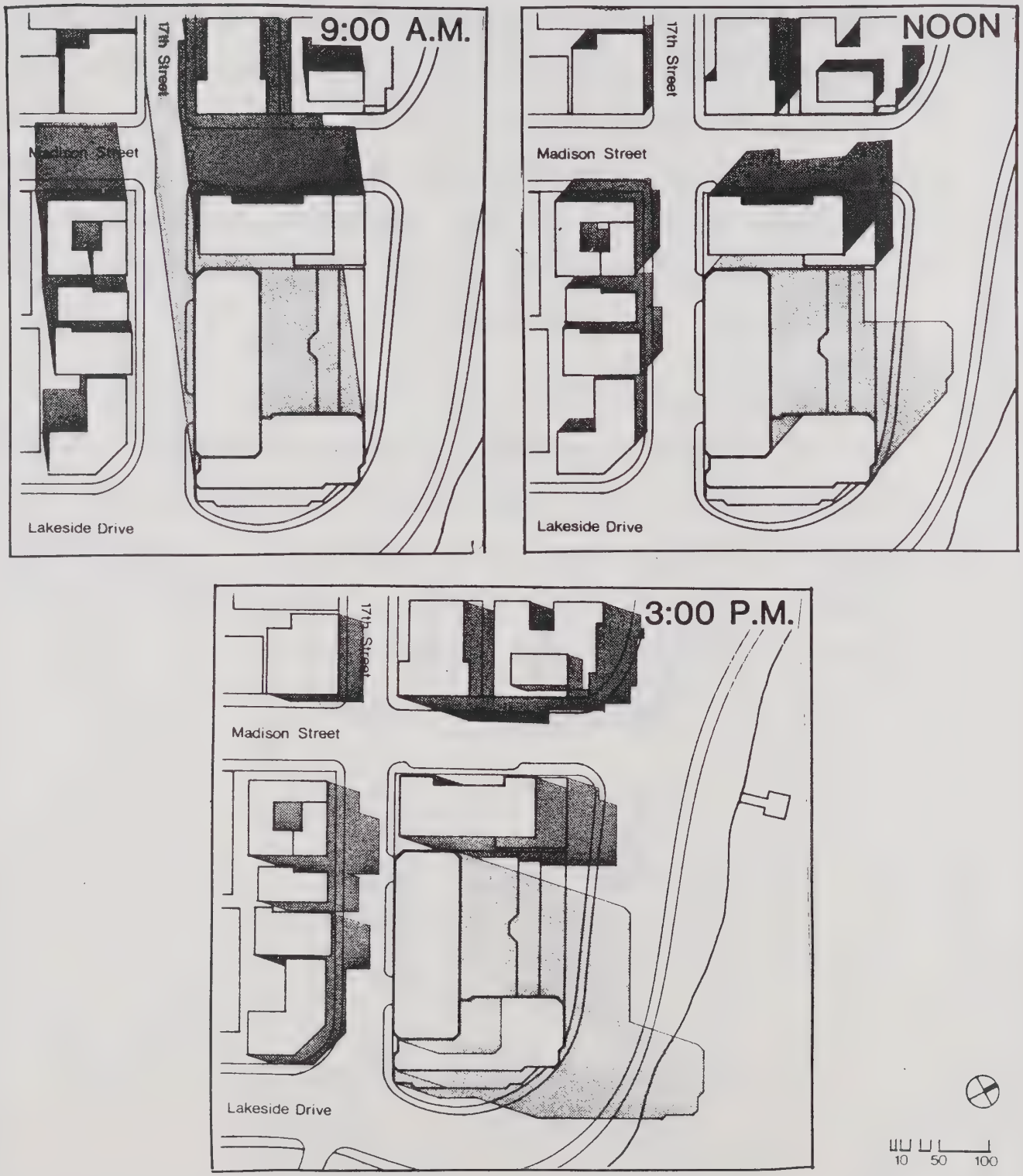
Figure 33

JEFFERSON ASSOCIATES INCORPORATED

- **Fall/September 21**

The next set of shadow diagrams illustrates how the shading impacts of the project on its central terraces increase between summer and fall. Virtually all of the central terrace area would be in shadow by September 21 and remain in shadow throughout the day. The eastern podium and tower roof terraces, however, would receive direct sun from morning until early afternoon.

Shadowing impacts on the surrounding area would be minimal in the morning and increase in the afternoon. Longer shadows would be cast than during the summer season. Early morning shadows along 17th Street would be receding by 9:00 am, while afternoon shadows on the adjoining lakeshore would be noticeable before 3:00 pm.



SHADE AND SHADOW DIAGRAMS

FALL/SEPTEMBER 21

SOURCE: WALLACE, ROBERTS, AND TODD

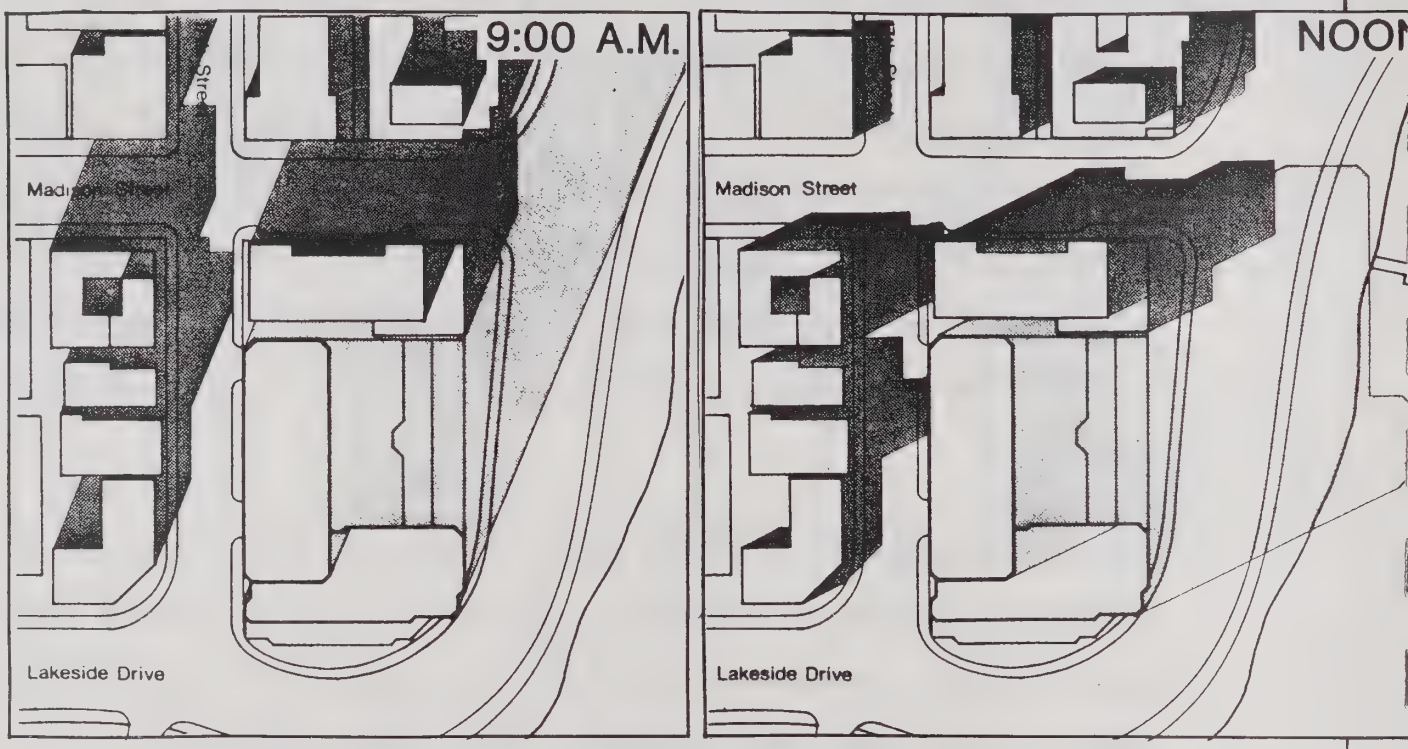
Figure 34

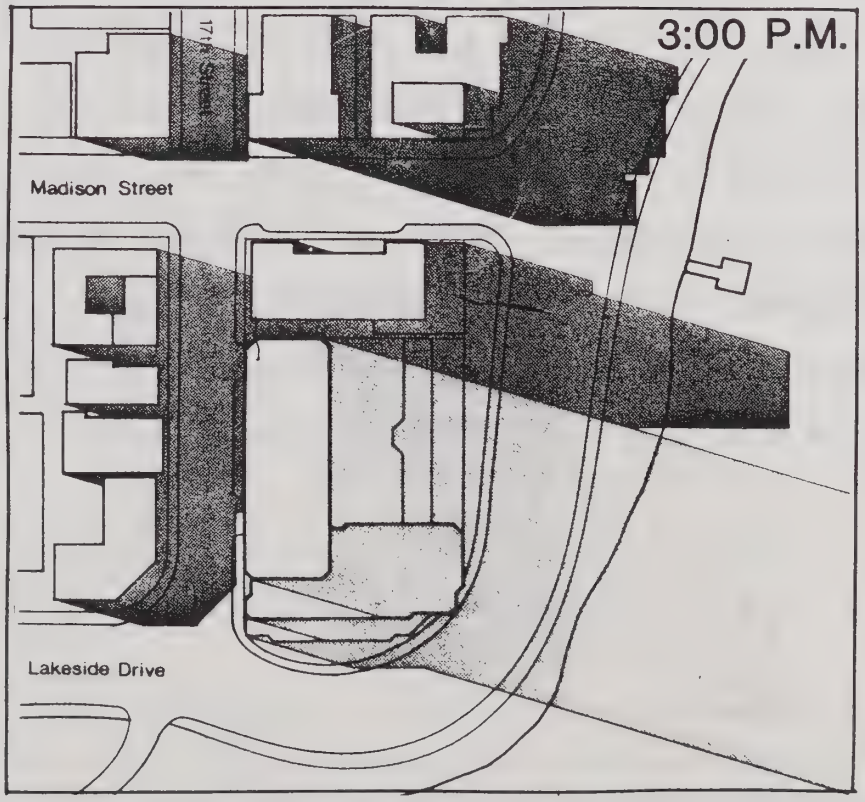
JEFFERSON ASSOCIATES INCORPORATED

o **Winter/December 21**

During the winter months, the sun's path has less range from east to west, producing shadows with less variance in the angle of incidence but of much greater length. As a result, the central terraces would be in shadow all day. A small area would be shaded by the adjoining hotel. Much of the area of the eastern terrace would also be in shade by mid-afternoon.

The surrounding area would also experience shade during much of the day. Only the north side of 17th street would be in sun for any length of time. In this case, the shadows are cast by the low-rise buildings lining the south side of the street. The existing mid-rise buildings west of the project site, including the Lake Merritt Hotel, would cast shadows reaching to the lakeshore by 3:00 pm. Similarly, the proposed residential tower would shade the park. Although afternoon shadows on the lakeshore will result from the proposed project, virtually any building on the site in excess of six stories would produce shadows on the lakeshore.





SHADE AND SHADOW DIAGRAMS

WINTER/DECEMBER 21

SOURCE: WALLACE, ROBERTS, AND TODD

Figure 35

JEFFERSON ASSOCIATES INCORPORATED

In summary, the project's orientation will result in substantial shading to the project's central terraces during fall and winter periods. Rooftop open space areas, south and east facing balconies, and the eastern terrace, however, will have substantial sunlight. The proposed building will also shade a portion of the linear park along the Lake Merritt shore north of the site, beginning in the fall and increasing through the winter until December 21. There would be no shading of the park to the east of the project site, however. The project will also shade segments of 17th Street during the early morning hours from spring through fall. For the most part, shading impacts would be confined to the north side of the street, directly adjacent to the site.

4. MITIGATION MEASURES

a. Visual Quality/Urban Design Considerations

o Skyline and View Corridors

The skyline profile and view corridors will be impacted at two levels: distant views to and through the project site and short-range street level views past the project site. The distant views most affected by the project will be those from particular vantage points along the Lake Merritt shoreline. Measures that could reduce the bulk of the building include the following:

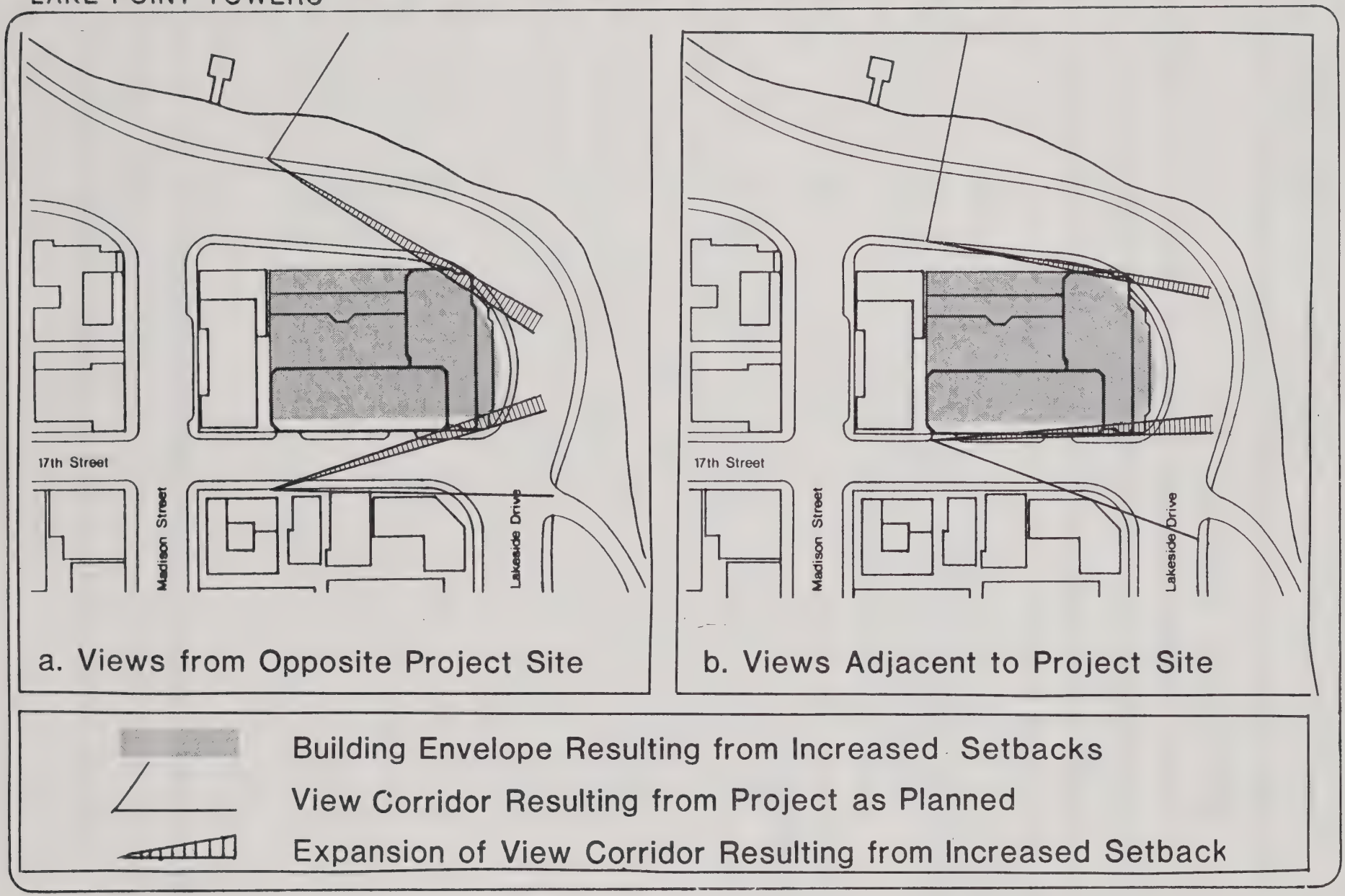
- Reduction in the size of the building footprint.
- Increasing setbacks along 17th Street.
- Providing upper level setbacks at several intervals as the tower increases in height.

From certain vantage points along the lakeshore the project will block views of the City Hall Tower and the Tribune Tower. To a certain extent, loss or reduction of these view corridors is an unavoidable impact of high-rise construction along Lake Merritt. An alternative approach which could reduce blockage of these particular views would be to separate the single L-shaped tower form into two smaller but taller towers deliberately sited to open up views to either or both buildings. (Refer to shadow mitigation diagrams.) This approach provides sight lines through the project. This approach, however, also results in the creation of two 22-story structures which would be among the taller buildings in Oakland.

The project will also have the effect of reducing existing street level view corridors past the site to Lake Merritt. These views are relatively short-range and occur from the streets adjacent to the site. A means of mitigating this impact would be to increase the building setback at certain locations, particularly at the north and southeast corners of the site (Figure 36).

o Relationship to Other Buildings

The proposed project size and orientation will impact neighboring buildings, most particularly the adjacent Lake Merritt Hotel. Landscaping along 17th Street should be consistent with that employed by similar size buildings within the neighborhood. Also, there needs to be clear signing and other design features to indicate pedestrian versus vehicular entrance points. Design measures that could be employed in order to improve compatibility of the project to its surrounding structures are:



INCREASED BUILDING SETBACKS EFFECT ON LAKE MERRITT VIEW CORRIDORS

Figure 36

SOURCE: WALLACE, ROBERTS, AND TODD

Building Setback and Massing

- Provide a transition in height between the hotel and the tallest portion of the tower by stepping back the building as it gets higher.
- Provide a building setback of between five and ten feet from the property line for both the podium and tower above. Landscape this area with appropriate plant material.

Pedestrian and Vehicular Circulation

- Clearly indicate the proposed pedestrian and vehicle entrances to the building.

Landscaping

- Increase ground level planting areas around the project on 17th Street and landscape the City-owned area along Lakeside Drive.
- Use appropriate plant material to screen the parking podium and to emphasize entries and other major architectural features particular along Lakeside Drive.
- Plant street trees around the perimeter of the site in accordance with adopted street tree recommendations of the City of Oakland. Liquidambar, the deciduous species planted along much of 17th Street, could be used.

Architectural Composition and Surface Treatment

- More deliberate composition of facade elements such as window bays, balconies and entrances could help to

alleviate the apparent mass of the building wall along 17th Street in much the same way that the composition of the front facade of the Lake Merritt Hotel gives it a vertical rather than a horizontal emphasis. For example, rather than continuing uninterrupted across the facade, bay windows could be grouped vertically to provide clear breaks in the composition of the facade; balconies could be similarly used to flank or emphasize the building entrances; window openings could be proportioned more vertically than horizontally.

- Surface treatment should reflect the predominantly Mediterranean stylistic traditions of the Lake Merritt neighborhood. Warm, light pastel colors and smooth or lightly textured surfaces, such as stucco or concrete, are appropriate for the body of the building (walls or wall panels). Darker, richer colors and materials which contract in texture could be used to define the base or other special architectural elements.

o **Quality of Living Environment**

Potential negative impacts upon the quality of the living environment result primarily from lack of sunlight to certain public areas, ease of access to public terraces, and lack of privacy between residential units. For example, as indicated by the shade and shadow analysis, the central terrace area will be in shadow most of the time. In addition, access to these terraces could be difficult for the elderly residents due to the lack of

ramps. The placement of balconies adjacent to bay windows could result in reductions in privacy for residents of units abutting other units' balconies. The following approaches could alter these impacts:

- o High-rise building elements, to the maximum extent feasible, could be located on the north side of the principal open spaces. (Refer to shadow mitigation discussions and diagrams.)

- o All major outdoor terraces should be made accessible to all residents. Where direct access is not possible from adjoining public rooms or lobbies, elevators or ramps could be provided in addition to stairways.

- o Consideration should be given to increased privacy between adjoining units, private balconies or open space areas. Where balconies adjoin, visual screening could be provided between them. Bay windows could be designed for privacy between adjoining units.

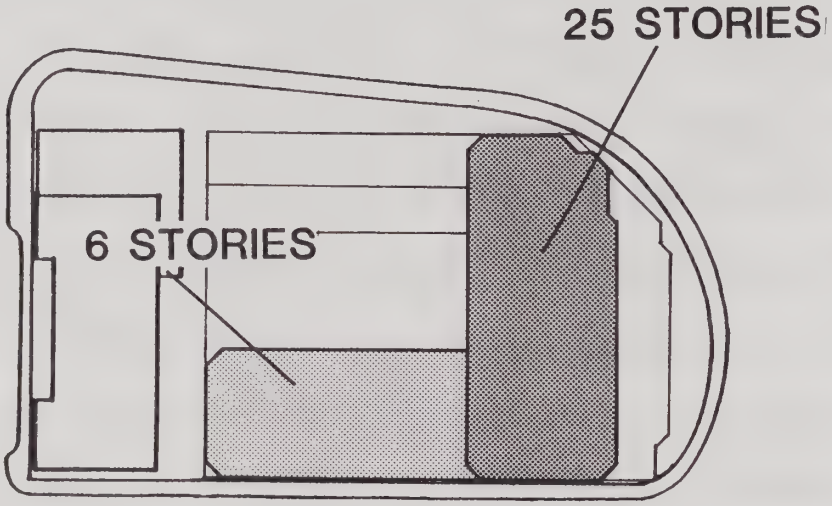
b. Shade and Shadow

Shading of the north side of 17th Street and the shoreline park north of the site are to a large extent unavoidable impacts of development. Even a mid-rise building, regardless of its configuration, would cast shadows on these areas at most of the critical times previously discussed. Lowering the height of the proposed project to approximate that of the Lake Merritt Hotel would reduce the amount of shading during the winter on the lakeshore through the noon hour, but is not likely to result in

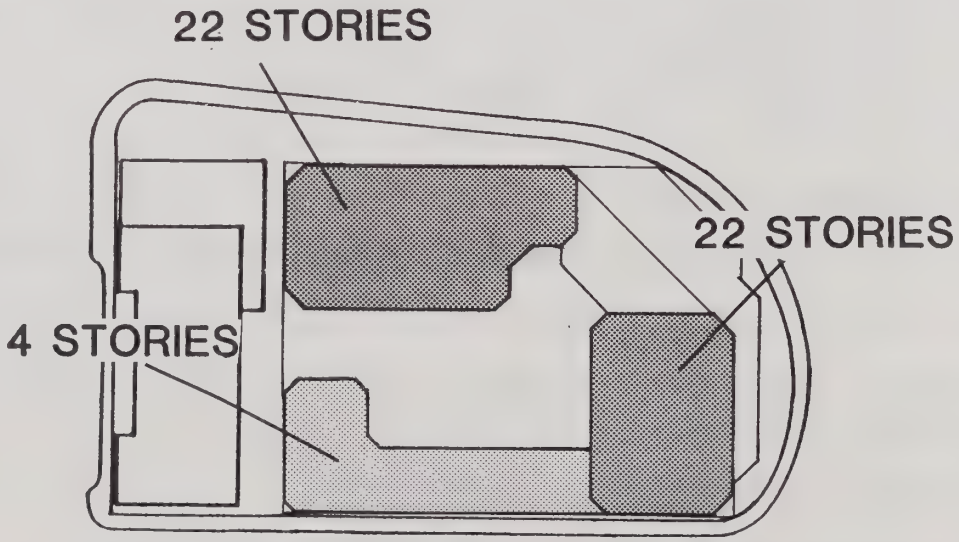
an appreciable difference thereafter. Likewise, the shading impacts to 17th Street resulting from the project could be lessened by scaling down the height of the building or setting the tower farther back from the street. However, shading impacts from the project to those areas are not significant, occurring only in the early to mid-morning hours of the summer months.

Shading of the central terraces, however, could be substantially lessened by altering the massing and siting of the tower elements of the project. Without reducing the overall scale of the project, there are essentially two methods of lessening the shadow impacts to the central terraces. One is to reduce the footprint and bulk of the tower while increasing its height. The other is to rearrange the proposed tower elements into a different footprint configuration. Each approach has a number of variants, several of which are diagrammed in Figures 37 and 38.

Any of these configurations would create open spaces in the central portion of the site with more sunlight. However, some of these alternative configurations would likely result in taller buildings. There is no specified height limit in the R-9Ø zone.



a. One Taller Tower Low-Rise along 17th Street with North-Facing Open Space

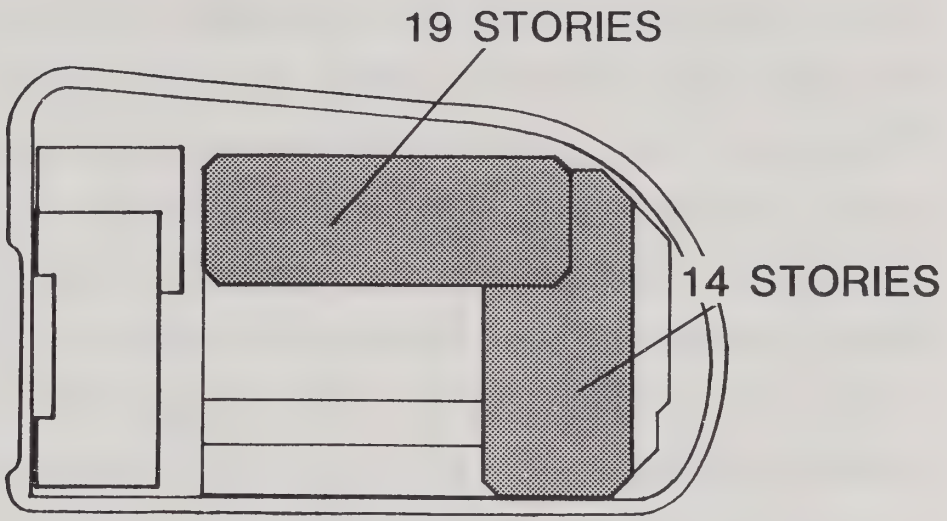


b. Two Taller Towers, Low Rise along 17th Street, With Corner and Central Block Open Space

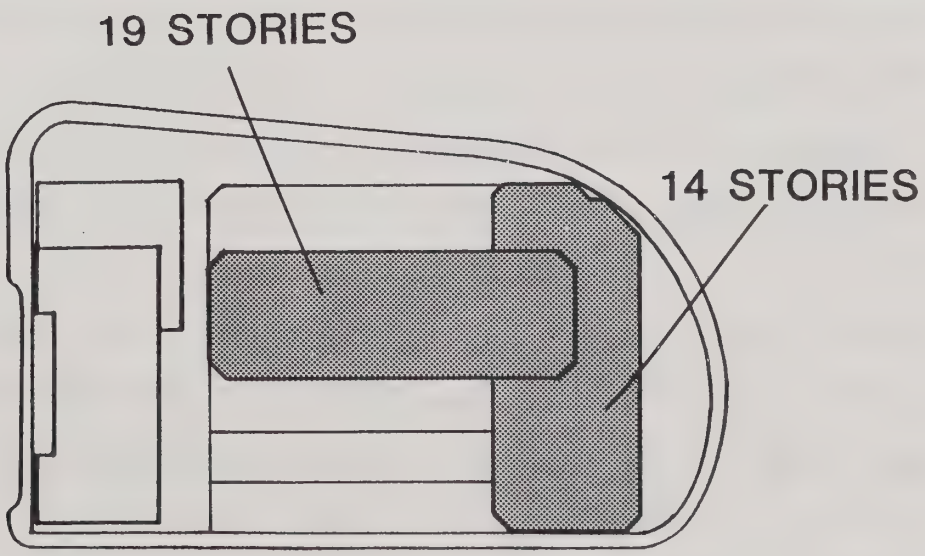
TOWER CONFIGURATIONS INCREASED HEIGHT/DECREASED BULK

Figure 37

SOURCE: WALLACE, ROBERTS, AND TODD



a. Reverse Plan Tower with South Facing Open Space



b. T-Shaped Tower with North and South-Facing Open Space

TOWER CONFIGURATIONS NO CHANGE IN HEIGHT OR BULK

SOURCE: WALLACE, ROBERTS, AND TODD

Figure 38

e. Summary and Alternatives to the Project

The recommended design measures are intended to encourage the best possible use of the site in terms of building configuration and architectural design given the proposed use, the program and the densities allowable under current zoning. Many of the measures could be applied to the proposed design without substantially altering its basic organizational concept. Others, particularly the two-tower configurations described in the shadow impacts discussion, would require a redesign of the project. The concept of the one taller (25-story) tower illustrated in diagram A is likely to result in visual impacts, similar to those of the proposed design when viewed from across the Lake. The two-tower concept illustrated in diagram B could reduce shading to the central areas and open up view points to the City Hall and/or Tribune Tower. Views to the Lake, particularly from Lakeside Drive north of the project, would also be more open, and the increase in space between the Lake Merritt Hotel and the adjoining tower would allow many of the hotel rooms views of the Lake either over the low-rise housing along 17th Street or between the towers. But this concept would also create two 22-story buildings along Lakeside Drive. Building height appears, at this time, to be more of a concern than building mass.

G. COMMUNITY SERVICES AND FACILITIES

1. POLICE SERVICES[1]

a. Setting

Twenty-four hour emergency response and preventive patrol services are provided by the Oakland Police Department located at 455 Seventh Street. The Patrol Division of the Department divides the City into five districts. Each district has seven patrol beats, with one officer assigned to each beat. The project site is in District 1. Additional police services are provided in District 1 by the Special Operations Section, which consists of walking officers, motorcycle or horse-mounted patrol coverage, and special two-man anticrime patrol in unmarked cars. The number of officers covering the area varies according to the time of day and whether it is a weekday or a weekend. The maximum coverage in District 1 is during the peak work hours (7:00 a.m. - 6:00 p.m.) during the weekday with 22 officers either on foot, horse, motorcycle or motorscooter. Primary coverage for this project would consist of automotive and motorcycle patrols.

Weekend coverage for District 1 includes three officers in cars, one on motorcycle, two on horses, and one foot patrolman during the daytime. Night coverage also includes four walking officers from 3:00 p.m. until 2:30 a.m. The police coverage assignments

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[1] Much of the content of this section is taken from the Chinatown Draft Environmental Impact Report, prepared by Jefferson Associates, June 1985. The Lake Point Towers project is in the same police district as the proposed Chinatown redevelopment Project.

are not static. There are continuous changes made to officer assignments to adjust for changing coverage demands created by new commercial growth in downtown.[2]

Oakland has been successful in holding the line against nationwide increasing crime rates. Despite increases in several recent years, there were 1,209 fewer serious offenses reported in Oakland in 1982 than in 1969. Oakland's crime rate increased less than those of the five other major California cities from 1975 to 1982 (a 1.1% increase).

b. Impacts

Proposed Project

Encouragement of more housing within the Central District has been intended to make downtown Oakland a more vital 24-hour location. This increase in vitality, however, necessitates police coverage that is more evenly distributed over a 24-hour period. Current staffing patterns within the downtown area place most patrol personnel on-duty between the hours of 7:00 a.m. and 6:00 p.m. Only limited coverage is available after 6:00 p.m. The Police Department does not patrol interiors of buildings.

Greater traffic conflicts can be expected to result from more development, thereby creating another source of additional police

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[2] Captain Peter Sarna, City of Oakland Police Department, written communication received January 14, 1984.

work. It could be expected that the additional traffic contributed by the project may increase some of the current traffic patterns, including:

1) increased number of service vehicles entering and leaving the site.

2) increased number of cars picking up or dropping off residents.

3) increased number of cars looking for on-street parking spaces.

The Police Department also has recommendations regarding the actual physical design of residential projects, particularly in regards to the design of exterior public spaces and provisions for emergency vehicle access. The Department recommends that exterior public spaces be landscaped and lighted in a manner that maximizes visibility of sitting areas. The proposed senior housing within this project will necessitate a design that ensures emergency vehicles smooth access to and from the site. The department also recommends that secured parking be employed wherever possible.

c. Mitigation

In order to reduce the potential for criminal activity, to improve police coverage, and to minimize traffic problems on-site, several mitigation measures could be employed. They include:

1) hiring a security consultant to provide a detailed analysis of desirable security features;

2) development of on-site security programs for all buildings and garages;

3) development of signs and other graphics giving direction to loading areas and resident parking areas.

Review of the proposed plans by the Oakland City Police department should occur prior to their finalization.

2. FIRE SERVICES [3]

a. Setting[4]

Fire protection services are provided to the project site by the Oakland Fire Department. The project site is served by Engine 1, Truck 1, and Battalion 2 at 1605 Grove Street; Engine 12 at 826 Alice Street; and Engine 15, Truck 15 at 455 - 27th Street. Fire services can be requested by dialing the Emergency 911 telephone number.

The Oakland Fire Department has the highest rating, Class 1, for a fire department. Current response time for the first-in unit is less than three minutes. Cities over 250,000 population are no longer rated through the Insurance Services Office. Prior to this policy change several years ago, the City of Oakland had an Insurance Services Office rating of "2A," the highest given.

b. Impacts

Proposed Project

Most anticipated fire suppression problems of high-rise residential structures have been considered and addressed in the Oakland Fire Code, Oakland Building Code and Title 19 of the California

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[3] Much of the content of this section is taken from the Chinatown Draft Environmental Impact Report, prepared by Jefferson Associates, June 1985. The Lake Point Towers project will be served by essentially the same fire trucks and engines as the proposed Chinatown redevelopment Project.

[4] Paul Bailey, Fire Marshall, Fire Prevention Bureau, personal interview, December 28, 1983; George W. Gray, Deputy Chief, Operations Division, personal interview, November 14, 1984; phone conversation, Oakland Fire Department, July 15, 1985.

Administrative Code. Internal sprinkling systems and standpipes are required to assist the Fire Department in fire control, confinement and extinguishment in taller buildings. A means for direct physical access and water supply capability will also be required should any enclosed interior courtyards be proposed.

The proposed project, when added to the other new commercial and residential developments in downtown Oakland, will place additional requirements on the Fire Department for planning equipment needs and organization of personnel time for fire prevention, fire suppression, and pre-fire planning, training, and emergency medical response. For example, additional annual inspections are required of all high-rise buildings to ensure that fire suppression equipment and fixtures are working and satisfy the state requirements. In addition, evacuation plans are required for all high-rise structures. The Fire Department must also respond to false alarms, which can be set off by smoke alarm systems.

c. Mitigation

Proposed Project

Mitigation measures are required in compliance with the Oakland Fire Code, the Oakland Building Code and Title 19 of the California Administrative Code (which requires proper maintenance of buildings, fire equipment, and fire alarms). All equipment and installation of emergency systems are subject to review and approval by the Fire Marshall.

In addition to the requirements within the Oakland Fire Code, implementation of the following measures could improve fire

control.[5] However, such changes should first be considered as a comprehensive revision to the Fire Code.

- o installation of sprinklers in all parking structures and within the kitchens and hallways of residential units.
- o inclusion of one elevator per structure that is large enough to hold a stretcher (approximately 6'-8" wide by 5'-5" deep). It should also have the capability of being run by auxiliary power from a diesel generator.
- o provision of equipment carts within high-rise structures above the sixth floor. These carts would contain fire-fighting equipment selected by the Fire Department.
- o providing plumbed-in breathing air or additional breathing apparatus at stairwell landings.
- o provision of a ground floor stairwell access that is only for Fire Department personnel.
- o providing living unit doorlocks with a single deadbolt lock combination that has the capability of handling a master key as well as individual keys.

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[5] Interview with George W. Gray, Deputy Chief, Oakland Fire Department, November 14, 1984.

3. PUBLIC SCHOOLS[6]

a. Setting[7]

The project site is located within the boundaries of the Oakland Unified School District. The school district provides educational services for Oakland residents at the elementary, intermediate and high school levels. Lincoln Elementary School, Westlake Junior High and Technical High School would serve the children living within this project.

Lincoln Elementary School, located at Tenth and Jackson Streets, is currently overcrowded. It has traditionally been open to children living outside the district, but when enrollment expanded to 725 (capacity is 580) parents living outside the district were given the option of participating in a 12-month school year program or finding another school. Subsequently enrollment dropped to 630, which is still over capacity but does not necessitate a 12-month school year. Lincoln Elementary School no longer takes children living outside the district.

The junior high and high school serving the project area are currently operating below capacity. Westlake Junior High, located at 27th and Harrison Streets, has a capacity for 1,080

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6 Much of the content of this section is taken from the Chinatown Draft Environmental Impact Report, prepared by Jefferson Associates, June 1985. The Lake Point Towers project is served by the same schools as the proposed Chinatown redevelopment Project.

7 Information regarding the public school service area, capacities and enrollments has been furnished by Mr. Walton R. Lee, Departmental Research and Evaluation, Oakland Unified School District.

students. Its current enrollment is 911 students. Oakland Technical High School, on Broadway at 45th, has a capacity for 1,700 students and an enrollment of 1,493 students.

b. Impacts

Cumulative Impacts

The proposed project contains 158 market-rate units and 300 senior units. Children residing in this project will be located in the 158 market-rate units. No children will be living in the senior units. The Lake Point Towers project is not the only residential project proposed within Oakland's Central District. The Chinatown Redevelopment project, located in downtown Oakland, proposes a range of 250 to 500 dwelling units. There are also plans for 600 housing units within the City Center project and 140 housing units proposed within the East Bay Asian Local Development Corporation (EBALDC) project.[8] The potential cumulative impact of these projects upon the existing school system could be expected to be greater than that anticipated for this project alone.

Proposed Project

It is not anticipated that the 158 market-rate residential units will result in a significant increase to the number of school age children living within the Oakland Central District Area, based on the following conditions:

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[8] City of Oakland Planning Department, written communication, January 1985.

1. Small residential unit size.

The floor plans indicate a predominance of studio and one-bedroom apartments. Families with children would not likely reside in these units.

2. Cost of units.

The non-senior units are designated market-rate housing. This means that no "affordable" units will be contained as a part of the 158 non-senior units. Because of the Lake Merritt location and the amenities included within this project, it is likely that market-rate units will be priced in the upper ranges of housing costs.

3. Existing neighborhood demographics.

This particular Lake Merritt neighborhood is not currently habitated by many families. The 1980 Census showed approximately 40% of the area residents as living alone. The average number of persons in a household was 1.48. Of the total persons living in the area, only 10% were within the under-5 to 19-year-old range.[9]

Assuming 1.48 persons per household would result in a total of 234 persons living within the Lake Point Towers market-rate units. Should 10% of these persons be under five years to 19 years of age, a total of 23 pre-school and school-age

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[9] 1980 Census of Population, U.S. Dept. of Commerce, Bureau of the Census, Table P-1: General Characteristics of Persons, page 20.

children could reside in the market-rate units. As mentioned earlier, the predominant unit type within the project is studio. It is not likely that children will be living in these units. The total of 23 children is therefore most probably the worst case analysis for this particular project.

Given the current enrollment at Lincoln, the addition of approximately 23 children would increase the number to 653 students. This is not a substantial increase, but Lincoln School is already over capacity.

Under existing conditions it would appear that children living within the Lake Point Towers Project could have to attend Elementary School outside of the area unless:

1. Enrollment at Lincoln School dropped so that new children could be brought in.
   - o A district-wide change to the school boundary lines is being considered and could relieve some overcrowding.

2. Lincoln School's facilities are expanded.
   - o The existing facility consists of a main structure and seven portable units. Expansion would probably either be vertically (addition to existing structure) which would necessitate relocation of children while construction was in progress, or horizontally (expansion of floor space) which would result in a reduction of playground space.

3. A new school space within the Oakland Central District area is created.

No mitigations are required given the extremely low potential that families with school-age children will reside in the project.

4. WASTEWATER

a. Setting

Wastewater treatment for the project site is provided by the Special Sewage Treatment District No. 1 (SD1) of the East Bay Municipal Utilities District (EBMUD). SD1 was established in 1944 to provide for the treatment and disposal of sanitary and industrial wastewater received from the cities of Alameda, Albany, Berkeley, El Cerrito, Emeryville, Kensington, Oakland, Piedmont, and Richmond Annex. The expansion and improvement of the treatment plant nearly doubled the original plant's capacity for full primary treatment to 300 million gallons per day (MGD), and added secondary treatment of up to 168 MGD. Consequently, the sewage treatment plant has ample capacity, during the dry season, for new growth and development.

A three mile long outfall line from the treatment plant discharges the effluent to the Bay near Yerba Buena Island, where swift tidal currents flush it out to sea. The outfall is gravity-fed except during periods of high tides and high flow, where the flow is pumped to the Bay. EBMUD maintains the sewer collection facilities, but infiltration problems exist and peak flows during periods of precipitation commonly exceed plant capacity, resulting in partially treated wastewater being released into San Francisco Bay. Two overflow locations border the project site.

The basic problem with the sewage collection system is a combination of deteriorated pipes and illegally connected storm drains, thereby permitting groundwater to enter into the pipes. During periods of moderate to heavy rain, the sewage collection

system becomes filled with rainwater – a condition known as "infiltration and inflow" – and overloads both the collection and the treatment plant capacity. To avoid the treatment plant being overloaded, the excess untreated wastewater bypasses the plant and overflows directly into the Bay. Overflow conditions result in increased water pollution and present potential public health problems. To remedy this situation, the California Regional Water Quality Control Board is requiring Oakland, with other East Bay cities, to eliminate the sewage overflow and bypass points. A failure on the part of the City to correct this overflow condition could result in the Regional Board placing a building ban on the City of Oakland. The rationale behind the ban is to minimize any additional sewage wastewater that would result from new downtown development from entering the already defective sewage collection system.

The City of Oakland has joined other East Bay cities to combat this problem by participating in the East Bay Infiltration/Inflow (I/I) Study. The purpose of this study is to provide information on the most cost-effective way to reduce the number of sewage system overflows and control THG (I/I). The study is in the process of analyzing three basic methods for correcting the problem: 1) rehabilitation of current sewage lines (such as liningand grouting existing pipes); 2) replacement of existing lines;and 3) development of relief or parallel lines to existing lines to provide additional capacity.

b. Impacts

The proposed project would result in an estimated 67,784 gallons per day[11] of wastewater flowing into the sewage treatment plant. This flow would enter into existing trunk lines along 17th Street, Madison and Lakeside Drive. The trunk line located along 17th Street has been identified within the I/I study as needing rehabilitation. This study has further indicated that much of the entire downtown collection system is inadequate to handle peak flow conditions.

It is estimated that the project will result in an average daytime flow of 0.11[12] cubic feet per second (cfs). Applying a peaking factor of 1.5[13], the peak daytime dry weather flow would be 0.17 cfs. The I/I study of the problems of infiltration and inflow in sewer lines indicates that the average peak wet weather flows for the Oakland Central District (Basin 52) are three to four times greater than the dry weather flows, assuming unrehabilitated sewers. While the existing system can handle dry weather flows from the project, it is likely that additional wastewater flows during wet weather will exacerbate the already existing infiltration/inflow problem.

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[11] Based on 100 gallons per capita per day for residential dwellers (the figure used within the East Bay Infiltration/Inflow Study) and 1.48 people per unit (from 1980 U.S. Census Data).

[12] The formula for conversion of gallons per day to cubic feet per second was furnished by the City of Oakland's wastewater division. This formula is gallons/day x 1.55 x 10^{-6} = cfs.

[13] The peaking factor is derived from the I/I Study.

Table G-1
PROJECT WASTEWATER FLOWS

	Daily Flow Gallons/Day	Average GPM[1]	Daily Flow CFS[2]
Project	67,784	70.6	0.11

Total daytime flow = 0.11 cubic feet

Peak daytime dry weather flow = 0.11 x 1.5[3] = 0.17

[1] Gallons per minute. Measured over 16-hour period.

[2] Cubic feet per second.

[3] Assumes 1.5 peaking factor.

c. Mitigations

Additional analyses have been conducted to determine how the sewage pipe capacity problems could be remedied through rehabilitation of the current pipes to minimize rainwater and groundwater infiltration. A program of active pipe rehabilitation would possibly reduce the volume of infiltration by 50%. Despite such improvement, there are still many points within the downtown sewage collection system that would result in their being under capacity for future demand. As such, it will be necessary to construct a number of relief sewer lines to meet the projected flow requirements.

Capital expenditures needed to correct the sewage overflow problems caused by infiltration and inflow have also been projected in the I/I study. The study estimates that it will require an annual expenditure of over $16 million for all of Oakland to maintain and replace the sewage collection system. Such an expenditure is substantially greater than the approximately $8 million annually derived from the existing sewer service charge. In order to make up the difference between projected need and revenue supply, the City has considered a number of approaches, including:

1. An increase to the sewer service charge – a September 21, 1982 report form the Department of Public Works to the City Council recommended an increase in the sewer service charge to keep better pace with the need to replace sewer lines. An increase was made in 1983 that doubled the total sewer charge revenues.

The Long-Term I/I Management Program presented in August, 1984, indicated that sewer service charges would have to double in order to create the revenues necessary to finance the I/I recommendation.

2. The City of Oakland, unlike many of its neighboring cities, does not have a sewer connection fee. Such a fee is designed as a buy-in to the existing system. The previously-mentioned September, 1982 Public Works Report proposed such a connection fee at levels ranging from $500 per dwelling unit for apartment complexes to $100 per 1,000 square feet of commercial space. Other methods of assessing the connection fee are being studied.

The City, working with other cities within the I/I study area, is working on determining the methods by which to fund the rehabilitation. While some of the required increase to capacity will be the result of new development, no policy has yet been established regarding payments by developers for the capacity increase. It is anticipated that sewer funding methods will be determined at the completion of the Infiltration/Inflow Study. This study is expected to be completed by the end of 1985.[14]

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[14] Phone conversation, Ray Choy, P.E., Civil Engineer, City of Oakland, July 3, 1985.

H. NOISE

1. SETTING

The proposed project is located along Lakeside Drive between 17th Street and Madison Street across from Lake Merritt. The major noise source in the area is traffic on Lakeside Drive and, to a lesser extent, traffic on 17th and Madison Streets.

To quantify the existing noise environment at the site, noise measurements were made on July 2 and 3, 1985 (see Figure 39). Noise sources measured were trucks and cars along Lakeside Drive, 17th and Madison Streets, and motorcycles along Lakeside Drive and aircraft flybys. The results of these measurements are given in Table H-1.

The City of Oakland uses the CNEL descriptor[1] to determine the compatibility of various land uses to noise. The suggested goals are based on a study by the U.S. Department of Housing and Urban Development and are found in the Noise Element for the City's General Plan. The noise measurements were correlated with traffic information to obtain an estimate of the CNEL noise level for each measurement location. Measurement Location 1 (the portion of the proposed project facing Lakeside Drive) was found to be exposed to a CNEL of between 65 and 70 dB. Measurement Locations 2 and 3 represent the noise-sensitive receptors nearest to the proposed project. Location 2 represents the exposure of the Lake Merritt Hotel and currently has a CNEL of between 55 and

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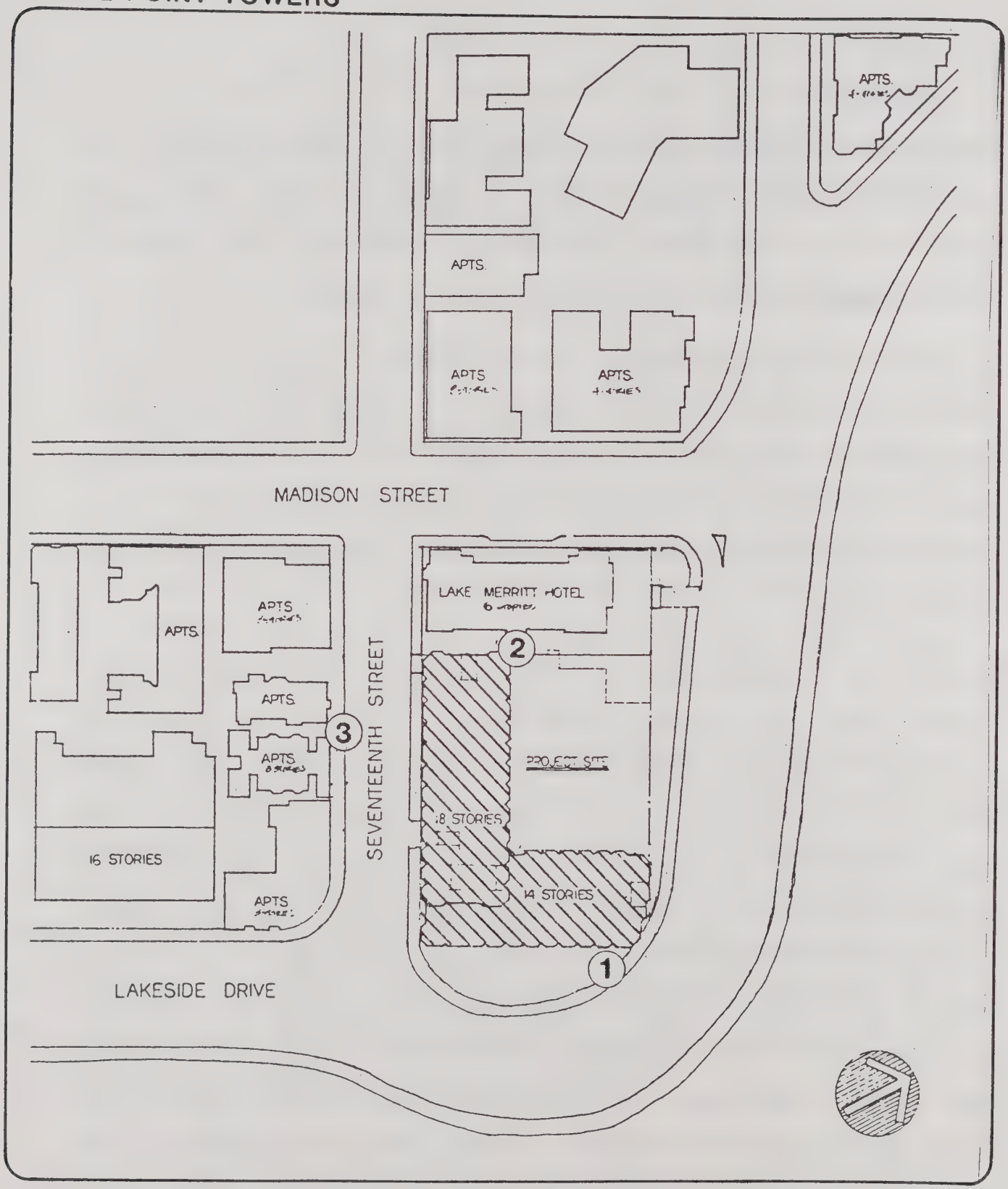
[1] See Appendix C for fuller explanation of this descriptor.



NOISE MEASUREMENT LOCATIONS

proposed buildings

Figure 39

SOURCE: CHARLES M. SALTER ASSOCIATES

JEFFERSON ASSOCIATES INCORPORATED

Table H-1

Noise Measurement Data

Site	Location	Date	Time	L_{10}*	L_{50}	L_{90}	L_{eq}**	Comments
1	W. side of Lakeside Dr. 60 ft. from center of Lakeside Dr.	7/2/85	4:31 pm	70	66	57	67	Major noise source are cars on Lakeside Dr.; bus and motorcycles w/peak levels up to 75 dBA
1	" "	7/3/85	10:27 pm	70	66	53	66	Several trucks with max levels up to 77 dBA
2	In parking lot of Merritt Lake Hotel; 17 ft. in front of east facade; 93 ft. from center of 17th St.	7/2/85	4:57 pm	58	55	53	56	Lakeside and Madison shielded
2	" "	7/3/85	11:07 am	59	55	52	56	Same as above plus a couple of jet flybys
3	South side of 17th St. 25 ft. from center of 17th St. at front facade of existing apartments; 195 ft. from center of Lakeside Dr.	7/2/85	5:22 pm	60	56	53	58	Traffic on 17th St. and Madison St. major contributors to noise; several trucks on Madison St.; cars on 17th St.
3	" "	7/3/85	11:27 am	60	55	52	56	Same as above

*The sound level in dBA that was equaled or exceeded 10 percent of the time; L_{50} and L_{90} are the levels equaled or exceeded 50 and 90 percent of the time, respectively.
**The L_{eq} is the equivalent steady-state sound level that, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same time period.

SOURCE: CHARLES M. SALTER ASSOCIATES

60 dB. Location 3 represents the exposure of the residential buildings across 17th Street and curently has a CNEL of between 55 and 60 dB.

2. IMPACTS

The following potential noise impacts were evaluated:

a. The impact of the existing noise environment on the proposed project

b. The impact of construction noise on existing adjacent residences

c. The impact of project-generated noise on existing noise levels

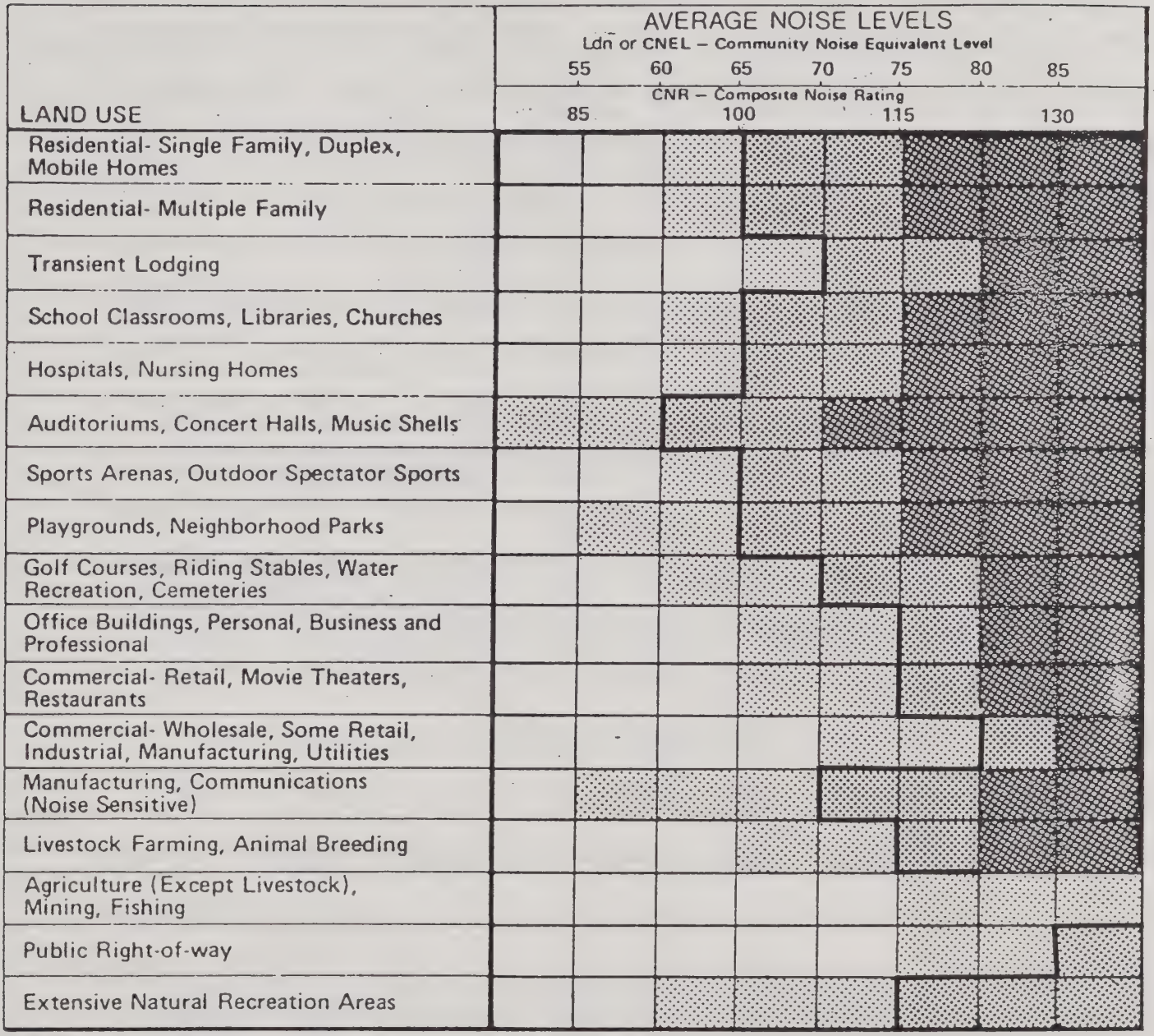
Land Use Compatibility

The goals for outdoor sound levels in residential areas contained in the City of Oakland's general plan states that a CNEL between 50 and 60 dB is clearly acceptable, an L_{dn} between 60 and 65 is normally acceptable, and an L_{dn} between 65 and 75 is normally unacceptable (see Table H-2).

In addition to the City's Guidelines for Outdoor Noise Levels, the State of California requires that all multi-family residential dwelling units be designed so that interior L_{dn} does not exceed 45 dB. An acoustical study is required to determine the proper mitigation required to achieve an indoor L_{dn} of 45 dB if the exterior L_{dn} exceeds 60 dB. Since the project is exposed to an L_{dn} between 65 and 70 dB, a noise study will be required.

Table H-2

H.U.D. Acceptability Ranges of Exterior Noise Level By Land Use Category



CLEARLY ACCEPTABLE
The noise exposure is such that the activities associated with the land use may be carried out with essentially no interference from aircraft noise. (Residential areas: both indoor and outdoor noise environments are pleasant.)

NORMALLY ACCEPTABLE
The noise exposure is great enough to be of some concern, but common building construction will make the indoor environment acceptable, even for sleeping quarters.

NORMALLY UNACCEPTABLE
The noise exposure is significantly more severe so that unusual and costly building construction is necessary to insure adequate performance of activities. (Residential areas: barriers must be erected between the site and prominent noise sources to make the outdoor environment tolerable.)

CLEARLY UNACCEPTABLE
The noise exposure is so severe that construction costs to make the indoor environment acceptable for performance of activities would be prohibitive. (Residential areas: the outdoor environment would be intolerable for normal residential use.)

SOURCE: U.S. Department of Housing and Urban Development, Aircraft Noise Impact; Planning Guidelines for Local Agencies, by Wilsey & Ham and Bolt, Beranek and Newman, 1972.

Construction

During the first phase of construction, trucks, bulldozers and backhoes will be on-site. These vehicles typically generate noise levels between 85 and 90 dB at 50 feet. Residential dwellings closest to the site will be exposed to maximum noise levels of up to 74 dBA with windows open and 69 dBA with windows closed. The second phase of construction would include erecting the structure. The major noise source during this phase would be pneumatic wrenches used to bolt the structure together. These tools typically generate noise levels up to 95 dB at 50 feet. Rooms in the Lake Merritt Hotel facing the project site will be exposed to maximum noise levels of up to 83 dBA with windows open and 78 dBA with windows closed. In both cases, these levels would cause some annoyance and speech disruption but would only occur at times of maximum power output when construction is occurring at or near the property line.

Post-Project Noise Generation

Because of the close proximity of the proposed project to residential units across 17th Street and to the rooms in the Lake Merritt Hotel, noise intrusion from mechanical equipment on the proposed project may pose a problem. Although details on mechanical specifications are unavailable at this time, care should be taken as to the placement and type of equipment used for the proposed project. The Mitigation section describes a performance standard that would reduce this potential impact.

The new project would generate 73 peak-hour trips on Lakeside Drive, 81 peak-hour trips on 17th Street, and 163 trips on Madison Street. In all three cases, the additional traffic would correspond to an increase in the L_{dn} of one decibel or less. A one-decibel increase in noise is just barely audible and would be considered an insignificant impact.

3. MITIGATION

a. General Mitigation

- Interior noise levels could be mitigated by requiring that the provisions of Title 25 of the California Administrative Code are met.

- Placement and type of mechanical equipment used in the proposed project, such as ventilation and air-conditioning units, should be chosen to ensure that noise levels outside rooms nearest the proposed project do not exceed 45 dBA.

b. Construction Noise Mitigation Measures

The following measures could be taken to minimize the impact of on-site construction noise on adjacent land uses.

- During pile-driving, pre-drill the holes so as to minimize the number of blows required to drive the piles. This also keeps the source of the sound near the ground and minimizes propagation over great distances.

- To further mitigate the noise of pile driving, portable shrouds can be erected around the driver, affording up to 15 dBA of shielding. This is a relatively expensive technique.

- Another method of mitigating hte pile driver noise could be to limit the hours of operation to the time when the least number of people would be impacted.

- Locate fixed noisy equipment such as concrete pumpers, compressors, etc. away from existing nearby land uses.

- Limit the noise output of construction equipment except impact tools to 85 dBA at 100 feet.

- All equipment including impact tools should be fitted with mufflers which are in good condition.

- Erect a solid wall safety barrier around the construction site so that it can also serve as a noise barrier. This is paticularly effective for shielding pedestrians and the lower floors of buildings from ground-based noise sources.

- To mitigate the noise impact of haul trucks, the trucks should be well-muffled and well-maintained.

- To reduce the inpact of construction vehicles on nearby residences, the trucks should not caravan to the site through residential neighborhoods before 7:30 a.m.

V. ALTERNATIVES TO THE PROPOSED PROJECT

A. NO-PROJECT ALTERNATIVE

1. DESCRIPTION

The California Environmental Quality Act (CEQA) requires the discussion of a "no-project" alternative. Such an alternative for the Lake Point Towers project would mean leaving the existing land uses on-site. Although this action would leave the site open to future development plans, it would not further the intent of the R-90 high-density multiple family residential zoning which encourages high-rise residential housing within the area. It would also not promote the city-wide goal of creating more housing options within the Central District area.

The no-project alternative would mean 458 fewer new housing units in Oakland. It would also, when compared to the current project proposal, result in fewer automotive and pedestrian trips within the area. Current levels of traffic, parking demand, and pedestrian activity would remain unchanged, except as affected by cumulative development. No increase to the amount of energy consumption would occur.

B. HOTEL/RESIDENTIAL HOUSING ALTERNATIVE

1. DESCRIPTION

This alternative would retain the proposed 158-unit residential structure. The senior housing would be replaced by a 300-room hotel. Exterior building design would remain the same as that proposed for the project. Building sizes and heights would also remain the same. Parking for 385 automobiles would be provided on-site.

Parking requirements for this alternative, however, would be increased by the zoning regulations. They would be as follows:

300 hotel rooms @ .75 space/room	= 225 req. parking spaces
158 market-rate units @ 1 space/unit	= 158 req. parking spaces
Spaces for Lake Merritt Hotel (26 supplied on-site; code requires 33)	= 7 req. parking spaces
Total parking required	= 390 spaces

If parking for the Lake Merritt Hotel is to be included in the structure, the proposed 385 parking spaces are less than the number required by the City's zoning regulations. Should parking for the Lake Merritt Hotel not be located within the Lake Point Towers project, the proposed parking supply will be two spaces in excess of that required by the code. It should be noted, however, that should restaurant and office uses be placed on the site in conjunction with the hotel, an increase to City parking requirements could occur.

Parking demand for this alternative has been estimated at 388 spaces. This is based on a standard residential demand of 1.03 parking spaces per market rate unit and .75 spaces per hotel room. The proposed garage, with the addition of 77 tandem parking spaces (total of 385 spaces), would satisfy the code requirement for parking and would fall only three spaces short of meeting the estimated demand.

It is not possible to calculate energy consumption for the hotel alternative's buildings until detailed building designs have been

produced. However, a projection can be made of the maximum total energy consumption of a hotel by assuming it will comply with California State Administrative Code, Title 24, requirements governing hotels. The energy use could be less with application of additional conservation measures incorporated in the new buildings.

The energy budget method established for conformance to Title 24 specifies that the total consumption covered by the regulations should not exceed 0.46 kilowatt hours (KwH) and 0.35 therms per year per gross square foot of conditioned floor area for hotels. Therefore, the proposed hotel building could have a maximum consumption of 16.4 billion BTUs annually for cooling, heating, lighting, and water heating. The Energy Commission has acknowledged that while the Title 24 standards for hotel are very minimal, developers often exceed them in order to save on a building's energy costs.[1] If energy consumption for the project's hotel building is similar to that in a hotel proposed to be constructed in downtown San Francisco, the proposed 300-room hotel would annually consume an estimated 24.9 million BTUs of natural gas and about 2.3 million kilowatt-hours of electricity.[2]

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[1] Bruce Maeda, Conservation Division, State Energy Commission, telephone conversation, January 24, 1984.

[2] Energy consumption factors based on Draft Environmental Impact Report, Post/Mason Hotel prepared by City and County of San Francisco, April 15, 1983. Factors are a per-room annual BTU consumption rate of 82,860 and per-room annual kilowatt hours consumption rate of 7,715.

Car travel induced by the project would result in increased energy consumption. Based on an estimated 12,825 vehicle miles traveled per day and an average fuel consumption of 20 miles per gallon, approximately 640 gallons of gasoline would be consumed per day by project-induced traffic.

2. ADVERSE IMPACTS MITIGATED BY THE ALTERNATIVE

The construction of additional housing within the Central District would provide more housing closer to downtown offices. Resident workers could therefore walk to work and thereby reduce the project's potential traffic and transit impact.

Oakland City Plans and Policies encourage the development of new hotels as a means to draw more tourist and business trade to downtown Oakland. In addition, the S-5 combining zone which was recently approved for this site specifically allows hotels as a permitted use. Since the F.A.R. requirements are based on the building square footages, and the square footages for this hotel alternative proposal are the same as for the proposed project, this alternative would also meet the F.A.R. requirements. The 158 residential units proposed meet the site density requirements. There are no density requirements for hotel units.

3. NEW ADVERSE IMPACTS CREATED BY THE ALTERNATIVE

The number of daily person trips generated from the project would more than double and the PM peak hour person trips would increase by approximately 110 percent (see Table V-1). The number of PM

Table V-1

COMPARISON OF BUILDING PROGRAMS AND TRANSPORTAION IMPACTS OF PROPOSED PROJECT AND ALTERNATIVE

Use	Proposed Project	Hotel Alternative
Standard Residential	158 DU's	158 DU's
Senior Housing	300 DU's	--
Hotel	--	300 rooms
Travel Demand		
Daily Person Trips	2,570	6,300
PM Peak Hour Person Trips	230	485
PM Peak Hour Vehicle Trips	125	256
Parking Demand		
Standard Residential	163	163
Senior Housing	225	--
Hotel	--	225
TOTAL	388	388

Table V-2

INTERSECTION PERFORMANCE - HOTEL ALTERNATIVE
Weekday PM Peak Hour - Level of Service, Volume-to-Capacity Ratio

Street Intersection	1986 With Proposed Project	1986 With Hotel Alternative
1. 27th St. & Northgate	C (0.71)	C (0.71)
2. 27th St. & Telegraph	B (0.66)	B (0.66)
3. 27th St. & Broadway	B (0.63)	B (0.63)
4. 27th St. & Valdez	A (0.33)	A (0.33)
5. 27th St. & Harrison	E (0.93)	E (0.93)
6. Oakland Ave. & Perry Place	A (0.48)	A (0.48)
7. MacArthur Blvd. & Grand Ave.	D (0.83)	D (0.83)
8. MacArthur Blvd. & Lakeshore Ave.	E (0.94)	E (0.94)
9. Grand Ave. & Harrison	D (0.84)	D (0.84)
10. Grand Ave. & Valdez	A (0.57)	A (0.57)
11. Grand Ave. & Webster	C (0.75)	C (0.75)
12. Grand Ave. & Broadway	C (0.77)	C (0.77)
13. Broadway & Franklin	C (0.73)	C (0.73)
14. Grand Ave. & Telegraph	B (0.64)	B (0.64)
15. Grand Ave. & Northgate	B (0.68)	B (0.68)
16. Lakeside Drive & Madison	A (0.41)	A (0.48)
17. Lakeside Drive & Jackson	A (0.57)	A (0.57)
18. 20th St. & Harrison	D (0.86)	D (0.86)
19. 20th St. & Webster	D (0.82)	D (0.82)
20. 20th St. & Broadway	B (0.69)	B (0.69)
21. 19th St. & Webster	B (0.62)	B (0.62)
22. 19th St. & Harrison	A (0.58)	A (0.59)
23. 17th St. & Webster	B (0.62)	B (0.62)
24. 17th St. & Harrison	B (0.62)	B (0.63)
25. 17th St. & Madison	A (0.31)	A (0.33)
26. 17th St. & Oak (Lakeside)	A (0.32)	A (0.36)

NOTE: Signalization of Oakland Avenue/Perry Place and of Lakeside Drive/Jackson St. was assume

peak hour vehicle trips would increase from 125 to 256 under the hotel alternative. The impact on the street network is summarized in Table V-2.

It could also be expected that pedestrian traffic within the Central District area would increase, since hotels generate a higher number of person-trips than residential uses. This would result from tourists, who generally like to explore on foot if possible, and other residential habitants. It is also likely that a hotel so close to Lake Merritt would be greatly appealing to tourists intending to use the jogging paths and other recreational amenities. This increase in pedestrian traffic can be easily accommodated.

The location of the main garage entry at 17th Street will increase traffic volumes on this street. This increase, however, should not extend all the way towards downtown because Madison and Lakeside are both linkages to surrounding areas. The intersection at 17th and Lakeside, however, could be expected to become more dangerous because of the low visibility at this intersection combined with the speeds of the oncoming cars.

4. WAYS THE NEW ADVERSE IMPACTS CAN BE MITIGATED

Creation of a hotel shuttle service could reduce the number of vehicle trips to and from the site. In addition, installation of a public transit information area could educate visitors as to the location and area-wide capabilities of the BART and AC Transit facilities.

Traffic lights or flashing warning lights could be installed in order to prepare Lakeside Drive autos for intersecting traffic from 17th Street. Autos could also be routed along Madison onto Lakeside Drive -- perhaps closing off 17th Street as an entry/exit point from Lakeside Drive.

C. VISUAL (MITIGATED) ALTERNATIVE

1. DESCRIPTION

Alternative B within the Visual Quality, Urban Design section provides a potential mitigation to the proposed project's bulk. This alternative would maintain the same number and type of uses on-site as the proposed project, but the building footprint and building heights would be changed. Two 22-story towers along Lakeside Drive and one 4-story structure along 17th Street are proposed. Figure 37(b) indicates the building location and building heights of this alternative.

Because this alternative is a visual mitigation, impacts related to its density and land use would be the same as those anticipated from the proposed project.

2. ADVERSE IMPACTS MITIGATED BY THIS ALTERNATIVE

By creating three structures on the site, the building mass is reduced. The proposed location of these structures (see figure 37[b]) would allow more sunlight into the central portion of the site. It would also open up viewpoints to the City Hall and/or Tribune Tower. Views to the Lake, particularly from Lakeside

Drive north of the project, would also be more open, and the increase in space between the Lake Merritt Hotel and the adjoining tower would allow many of the hotel rooms views of the Lake either over the low-rise housing along 17th Street or between the towers.

3. NEW ADVERSE IMPACTS CREATED BY THIS ALTERNATIVE

This alternative would involve the construction of two 22-story buildings along Lakeside Drive. While there is no specific building height limit on this site, the construction of two 22-story buildings would be a substantial alteration to the existing building scale. The proposed project consists of two structures, the tallest (18-stories) being located along 17th Street away from the water line. Its mass would be most apparent from 17th Street. A 14-story structure is located along Lakeside Drive, with its long side facing east (see figure 17).

Construction of two 22-story buildings on this site could establish a precedent for taller buildings along the Lake shore. Currently, building heights in the immediate area are less than proposed by this alternative. However, there are 22-story structures further north and west of the site. The most visible is the 22-story office tower at 1800 Harrison Street.

The increased building height within this alternative would also create narrower but longer off-site shadows. This could impact the amount of sunlight available at the adjacent Lake Merritt Park.

4. WAYS THE NEW ADVERSE IMPACTS CAN BE MITIGATED

The most obvious means to reduce the adverse impacts created by this would be to reduce the building height. In order to maintain the density, however, building bulk would be increased. This would result in a building mass similar to the proposed project. Adverse impacts resulting from this increase in bulk have already been discussed as part of the proposed project's impacts. Therefore, in order to mitigate the new adverse impacts it would most likely be necessary to reduce the buildings' height and density.

The proposed density, however, is only an 8% increase over that allowed without any senior density bonuses. Up to a 75% increase in senior units can be granted through a conditional use permit. It would appear therefore that the evaluation of the relative negative impacts of building height compared to building bulk will be necessary.

VI. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Development of the Lake Point Towers residential project would preclude other future uses of the site. Short-term adverse impacts from the project and alternatives would be related to construction activity and would include the resulting construction noise, traffic, and dust. Long-term adverse impacts would be related to a small increase in traffic and noise, an increased demand for public services, and an interruption of some established view corridors.

The long-term benefits of the project would be derived from the creation of new housing within the Central Oakland District. An influx of new workers and residents into this area will help to revitalize the downtown and Lake Merritt area by providing patrons for existing retail and commercial businesses within the area. The physical design of the development should improve upon the existing visual character of the site.

These long-term benefits should outweigh the short- and long-term adverse effects of the project.

VII. UNAVOIDABLE ADVERSE IMPACTS

A. TRAFFIC AND TRANSPORTATION

The proposed project would generate 2,570 person trips per day, with 230 occuring during the PM peak hour. About 125 peak hour automotive trips would be generated. Assuming a 1995 completion date for the projects listed in Tables B-7 and B-8, levels of service at intersections immediately surrounding the project would remain at LOS "A". The addition of the project's anticipated traffic to these intersections would not alter their levels of service. The traffic impact from this project would not be significant.

BART's service objective (1.5 load factor) is not currently exceeded. In 1995, it is projected that this service objective will be exceeded on the Richmond to Fremont line. The impact from the Lake Point Towers project would not alter the load factors. Impacts to BART from this project are therefore not significant.

B. ENERGY

The project will require the consumption of some non-renewable resources used in the production of electricity and natural gas. The project would annually consume about 366,400 therms of natural gas and 2.3 million kilowatt-hours of electricity. This impact is not significant because it is well within the service delivery capacity of PG&E.

C. VISUAL QUALITY, URBAN DESIGN, SHADE AND SHADOW

The project's height and massing could alter some established view corridors currently crossing the site. These include views toward the Oakland Tribune Tower and Oakland City Hall. Other view corridors remain open. This impact is not significant. The general size of the project is a substantial increase over the existing buildings on-site, but only 8% over that allowed by the Oakland Zoning Ordinance. Since senior housing is proposed, an increase in units of up to 75% may be granted through a conditional use permit. The size of the project is not a significant impact given the zoning density allowance. There is no specified height limit for the site.

Design measures have been proposed that could re-establish view corridors through the site, increase sunlight to the central site area, and reduce the apparent bulk of the project. These mitigation measures, however, result in taller buildings, located closer to the Lake shoreline. The creation of taller buildings along the western shore of Lake Merritt does not conflict with the established policies and zoning requirements for the Lakeside District. It's impact is therefore not significant.

Design measures have also been proposed to promote the visual integration of the proposed project to its surroundings.

D. COMMUNITY SERVICES AND FACILITIES

The proposal, when combined with other new residential and commercial development in the Oakland Central District, will impact Police, Fire, Wastewater and School facilities. More

police coverage of the Central District may be necessary, and increased demands will be placed upon Fire Department personnel to coordinate annual high-rise inspections. Very few children are expected to reside in the project because of its senior housing and small unit size. These impacts are not significant. The wastewater system currently has an infiltration/inflow problem during the wet weather periods. Any new construction could significantly impact the already deteriorated system. The City of Oakland is currently pursuing solutions to the infiltration inflow problem. It is working with other East Bay cities to determine methods for funding the rehabilitation.

E. NOISE

The project will result in some temporary and long-term increases to the existing noise levels around the site. Temporary increases to noise levels will be a result of construction activities. Noise levels during this period are expected to reach a maximum of 83 dBA (with windows open). This represents an 8% increase over existing noise levels and is a significant impact. Mitigation measures are proposed to minimize noise impacts from construction equipment.

Traffic generated by the project would increase the existing noise level by one decibel or less. This increase is barely audible and would not be significant.

The State of California requires that all multi-family residential dwelling units be designed so that interior noise levels not exceed an L_{dn} of 45 dB. A detailed acoustical study will be

required in order to ensure interior noise levels are below this designated standard.

VIII. GROWTH-INDUCING IMPACTS

Construction of new housing near the downtown area will help balance the need generated by the new office growth in this area. Assuming all residents of the proposed buildings would come from areas outside Oakland, the proposed project could increase the City's population by a minimum of 458 persons. To the extent that residents would be purchasing goods and services not already being purchased in Oakland, the new residents would directly stimulate some commercial activity.

No additional public facilities or services must be provided to accommodate the project; therefore, no further indirect growth-stimulating effects in connection with the project are foreseen. There would, however, be an increase in purchasing power in Oakland due to new residents over the long term, and construction personnel over the short term construction period.

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X. REPORT DISTRIBUTION LIST

(to be furnished by City of Oakland)

XI. APPENDICES

A. Initial Study

B. Traffic and Transportation

C. Noise

APPENDIX A

Initial Study

File No. ER85-28
Ref. No. CMDV85-218

City of Oakland
Oakland, California

INITIAL STUDY
California Environmental Quality Act

I. DESCRIPTION OF THE PROJECT Project consists of a 18 and 15 story residential tower containing 300 elderly units and 158 regular units; 2313 parking space will be provided in a one story above grade and 2 level below grade garage.

II. DESCRIPTION OF THE ENVIRONMENTAL SETTING Site contains 43,000 square feet; this includes a portion of the Lake Merritt Hotel site. Lake Merritt is to the east; apartments to the south across 17th Street.

III. ENVIRONMENTAL EFFECTS	Yes	Maybe	No	Source or Explanation
Geophysical. Will the proposal result in:				
1. Unstable earth conditions, including erosion or slides, or changes in geologic substructures either on or off the site?		X		Attachment
2. Major changes in topography or ground surface relief features?	X			"
3. Construction on loose fill or other unstable land which might be subject to slides or liquefaction during an earthquake?		X		"
4. Construction within one quarter mile of an earthquake fault?			X	
5. Substantial depletion of a nonrenewable natural resource or inhibition of its extraction?			X	
Air and Water. Will the project result in:				
6. Substantial air emissions, deterioration of ambient air quality or the creation of objectionable odors?		X		Attachment
7. Substantial degradation of water quality?			X	
8. Changed drainage patterns or increased rates or quantities of surface water runoff?			X	
9. Interception of an aquifier by cuts or excavations?			X	
Biotic. Will the project:				
10. Reduce the quantity of fish and wildlife in the project vicinity, interfere with migratory or other natural movement patterns, degrade existing habitats or require extensive vegetation removal?			X	
11. Reduce the numbers of any rare or endangered species of plants or animals?			X	
Land Use and Socio-Economic Factors. Will the project:				
12. Conflict with approved plans for the area or the Oakland Comprehensive Plan?			X	
13. Carry the risk of an explosion or the release of hazardous substances, including oil, pesticides, chemicals or radiation?			X	
14. Require relocation of residents and/or businesses?			X	
15. Cause a substantial alteration in neighborhood land use, density or character?	X			Attachment
16. Generate substantially increased vehicular movement or burden existing streets or parking facilities?		X		"
17. Elicit substantial public controversy or opposition?		X		"
18. Have a substantial impact on existing transportation systems or circulation patterns?		X		"
19. Result in a substantial increase of the ambient noise levels for adjoining areas?		X		"
20. Impose a burden on public services or facilities including fire, solid waste disposal, police, schools or parks?		X		"
21. Impose a burden on existing utilities including electricity, gas, water, and sewers?		X		"
22. Destroy, deface or alter a structure, object, natural feature or site of historic, architectural, archeological or aesthetic significance?			X	
23. Involve an increase of 100 or more feet in the height of any structure over any previously existing adjacent structure?			X	

Energy: Will the project:	Yes	Maybe	No	Source or Explanation
24. Use or encourage use of substantial quantities of fuel or energy?	X			

IV. MANDATORY FINDINGS OR SIGNIFICANCE (EIR required if answer to any of the following questions is "yes" or "maybe".)

	Yes	Maybe	No
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X	
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)		X	
c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)	X		
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X

If any "yes" or "maybe" answers are marked, describe the specific nature of the environmental effects involved and their relationship to the project. (Use an attached sheet if necessary.)

(SEE ATTACHMENT)

V. DETERMINATION:

On the basis of this initial evaluation:

☐ I find the proposed project WILL NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION will be prepared.

☒ I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Name WILLIE YEE Date May 30, 1985

Title Associate Planner

ATTACHMENT

ITEMS MARKED "YES"

2. The site will be excavated for three underground parking levels.

15. This project would be by far the largest residential complex in this area.

ITEMS MARKED "MAYBE"

1. & 3.

The project site may be underlain by fill.

6. Traffic generated by the project may reduce air quality in the area.

16. & 18.

Traffic circulation in this area is a problem during the P.M. peak hours. This project could worsen this situation.

17. The Adams Point Preservation Association and the Chinatown/Central Community Development Board have opposed other projects near Lake Merritt.

19. Increased traffic due to this project coulc add to ambient noise in the area.

20. & 21.

It is unknown at this time if the capacity of the sewers in the area can accommodate this project.

APPENDIX B

Traffic and Transportation

APPENDIX B

TRAFFIC AND TRANSPORTATION

1. Travel Demand Analysis

Future traffic and transit volumes were estimated for the local street system's peak-hour period (4:30-5:30 PM), which is also the projected peak hour for the proposed building. Analysis horizon years of 1986 and 1995 were selected for this study.

A four-step process was followed to project traffic generated by future development:

- Trip Generation - Estimation of the number of trips originating from or destined to the proposed site.
- Mode Split - Estimation of the share of trips taken by auto, transit or other modes.
- Trip Distribution - Determination of the directional orientation of trips generated by the proposed project.
- Trip Assignment - Assignment of trips to specific study-area corridors.

Trip Generation. The person and vehicle trip rates used in this study are presented in Tables A-1 and A-2. They have been obtained from numerous recent studies of traffic generation for general and existing developments.

Table A-1
PERSON TRIP GENERATION RATES

Development Type	Units	Daily Person Trip Generation Rate	PM Peak Hour%
Standard Residential	DU	7.6	9%
Senior Housing	DU[1]	4.6	9%

Table A-2
VEHICLE TRIP GENERATION RATES
Two-Way Vehicle Trips

Development Type	Units	Generation Rate		Peak Hour In/Out Split
		Daily	Peak Hour	
Standard Residential	DU	4.1	.4	67%/33%
Senior Housing	DU	2.5	.2	67%/33%

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1 GSF = Gross Square Feet Floor Area.

SOURCES:

- "Trip Generation," Third Edition, Institute of Transportation Engineers, 1982.
- Trip Generation Survey conducted August 12, 1982 at The Tamalpais Retirement Residence, San Rafael by DKS Associates.
- "Transportation Element Northeast Waterfront Survey Phase C, Technical Paper #1, Traffic Ways Plan with Embarcadero Freeway," November 1979.
- "Traffic Generation for Oakland City Center Project," Memorandum to Chow Low from Barton-Aschman Associates, August 31, 1976.
- "Progress Reports on Trip Ends Generation Research Counts," Studies No. 228, 244, 245, 246, State of California Department of Transportation, District 4, July 1975 and July 1976.
- "Hotel Oakland Parking and Traffic Impact Study," De Leuw, Cather & Company, November 1975.
- "Sixth Progress Report on Trip Ends Generation Research Counts," Studies No. 95, 96, 97, 100, and 115, State of California Department of Transportation, District 4, December 1970.

Mode Split. To accurately analyze future traffic and transit conditions, mode split estimates were made for Lake Point Towers PM peak hour trips. Peak period mode splits for all residential trips in 1986 and 1995 are estimated to be as follows: 26 percent via transit (10 percent on BART, 16 percent on AC Transit), 54 percent automobile drivers, 8 percent auto passengers, and 12 percent by other modes (bicycling, walking, etc.). While the occupants of the senior housing units may have a higher propensity throughout the day to be auto passengers, surveys of other retirement communities, indicated a higher proportion of auto drivers to auto passengers during the peak hour. This may reflect employee trips as well as residents who may still be employed. The peak periods are defined as being 7:00 - 9:00 AM and 4:00 - 6:00 PM.

Trip Distribution. The trip distribution of the Lake Point Towers project was based on two primary sources: the Metropolitan Transportation Commission (MTC) 550 zone journey to work trip tables[1] and travel model.[2] An adjustment of the residential trip distribution was made to reflect the assumption that senior citizens would make a greater number of local trips than the average residential commuter. It was assumed that 70 percent of the senior housing trips would be local, i.e., within Oakland.

Table A-3 summarizes the trip distribution for the Lake Point Towers project. This distribution shows that the greatest number of trips approaching the site during the PM peak hour would be originating within the City of Oakland.

Trip Assignment. For traffic impact analysis, vehicle trips to and from the proposed development were assigned to the existing street network within the study area based on the aforementioned trip distribution. Primary vehicle access routes for the project were 17th/19th Streets, Grand Avenue, and Harrison Street.

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1 "MTC 550 Zone Journey to Work Trip Tables," 1980.

2 "MTC FCAST Travel Demand Models," 1977.

Table A-3
PERCENTAGE TRIP DISTRIBUTION
PM Peak Hour

Area of Origin	Standard Residential	Senior Housing	Distribution Total Project
Oakland CBD	18	24	21
Remainder Oakland	34	46	40
Contra Costa County	3	2	3
South Bay (Includes Southern and Eastern Alameda, San Mateo and Santa Clara Counties)	10	6	7
North East Bay	22	14	18
City of Alameda	3	2	3
San Francisco	10	6	8
Total	100	100	100

2. Traffic Analysis

Analyses of traffic flows are useful in attempting to reach an understanding of the general nature of traffic in an area, but by themselves indicate neither the ability of the street network to carry additional traffic nor the quality of service afforded by the street facilities. For this, the concept of "level-of-service" has been developed to correlate numerical traffic-volume data to subjective descriptions of traffic performance at intersections. Intersections are the controlling "bottlenecks" of traffic flow, and the ability of a roadway system to carry traffic efficiently is nearly always diminished in their vicinities. Table A-4 presents the "level-of-service" categories "A" through "F" considered in this analysis and indicates the qualitative definition of each category and the corresponding volume-to-capacity ratios. Level-of-service "D" is the generally accepted standard for planning of transportation facilities. Levels-of-service "A," "B," and "C" are considered very acceptable, while levels "E" and "F" are progressively less so.

To efficiently analyze the 26 study intersections, the TRACS[1] computer program was employed. TRACS basically takes existing traffic plus projected traffic from any number of developments and determines volume-to-capacity ratios and levels of service at street intersections based upon critical movement analysis.[2] Table 9 summarizes the outputs from TRACS showing 1984 existing traffic, and 1986 and 1995 analysis conditions. Trip contributions calculated for the Lake Point Towers project are incuded in this analysis.

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1 "TRACS" is Traffic Analysis Computer Software developed by DKS Associates.

2 "Interim Materials on Highway Capacity," Transportation Research Board, Circular No. 212, Washington D.C., January 1980.

Table A-4
LEVEL OF SERVICE INTERPRETATION

Level of Service	Description	Average Vehicle Delay (Seconds)	Volume to Capacity Ratio
A	**Free Flow.** No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Insignificant delays.	0-16	0.0-0.59
B	**Stable Operation.** An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted within platoons of vehicles. Minimal delays.	16-22	0.60-0.69
C	**Stable Operation.** Major approach phase may become fully utilized. Most drivers feel somewhat restricted. Acceptable delays.	22-28	0.70-0.79
D	**Approaching Unstable.** Drivers may have to wait through more than one red signal indication. Queues develop but dissipate rapidly, without excessive delays.	28-35	0.80-0.89
E	**Unstable Operation.** Volumes at or near capacity. Vehicles may wait through several signal cycles. Long queues form upstream from intersection. Significant delays.	35-40	0.90-0.99
F	**Forced Flow.** Represents jammed conditions. Intersection operates below capacity with low volumes. Queues may block upstream intersections. Excessive delays.	40 or greater	1.00 and above

Source: "Highway Capacity Manual," Highway Research Board, Special Report No. 87, Washington, D.C., 1965.

"Interim Materials on Highway Capacity," Transportation Research Board, Circular No. 212, Washington, D.C., January 1980.

4. **Transit Impacts Analysis**

a. AC Transit - The impact of growth on AC Transit was analyzed by a straight forward factoring of current load factors on Oakland CBD lines to projected load factors, based on the projected future demand for AC Transit service. Overall impacts of growth were assessed by considering cumulative Oakland CBD development on each of the primary transit corridors serving the downtown.

b. BART - Future growth of BART ridership will stem from many sources. The goal in analyzing this future growth was to obtain projected load factors on each of BART's lines. Thus, growth factors were applied to ridership statistics in areas that are now experiencing development that will contribute to BART patronage in the upcoming years. The new trip numbers were categorized under the appropriate trip distributions; these distributions were adjusted to correspond to BART's network (e.g., travelers from the Oakland CBD to Alameda would not use BART). Then, according to the assigned distributions for the new trips as well as existing trips, all trips were distributed to each cordon point used for the analysis in this report. These cordon points are: the Lake Merritt Station and the MacArthur Station in Oakland and the Civic Center Station in San Francisco. All of these stations are on the fringes of either the Oakland CBD or the San Francisco CBD. Finally, to obtain the projected load factors on each of BART's lines at these cordon points, 1995 system capacity improvements were taken into account.

5. **Parking Analysis**

Demand for Parking - The parking demand analysis was based on a calculated 1.03 space per apartment rental unit for residential demand.[1] The senior housing parking demand, .75 spaces per unit, was calculated from a number of studies, taking into account two primary characteristics of the proposed Lake Point Towers senior housing units: resi-

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1 "Residential Parking Standards," Case File S 81-403 (ER 82-03), Oakland City Planning Department, January 29, 1982.

dents will be a minimum of 60 years of age and the units are aimed at upper income residents.[1]

6. Pedestrian Analysis

a. Street and Intersections

A three step process was used to determine the future pedestrian volumes that would be generated by the proposed project and their impact on the surrounding Oakland CBD:

- o Trip Generation - estimation of the number of walking trips originating from or destined to the site under consideration.
- o Trip Distribution - determination of which sidewalks and crosswalks would be used by pedestrians.
- o Crosswalks- analysis of pedestrian volumes in relation to the capacities of the crosswalks that they are using.

Trip Generation - Pedestrian trips that would be generated by the Lake Point Towers project are based on the person-trip generation statistics noted in Table A-1. The assumption is that everybody, excluding those who park in the underground garage and those who get dropped off, would arrive at the door of the building as a pedestrian regardless of the mode he or she used to get to the project site. Although pedestrian trips would be made throughout the day, the peak 15 minute period during the evening hours would be of most concern.

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1 Sources: "Villa Marin Retirement Residences Traffic Impact Report," DKS Associates, September 13, 1982.

"Hotel Oakland Parking and Traffic Impact Study," De Leuw, Cather & Company, November 1975.

"Sixth Progress Report on Trip Ends Generation Research Counts," Caltrans, December 1970.

Trip Distribution - Pedestrian trips generated by the proposed project would be oriented toward destinations and coming from areas according to the mode splits presented in this Appendix. For example, auto drivers would be walking to and from on-street parking spaces and bus patrons would be walking to and from bus stops. Given the locations of parking spaces, bus stops, the BART entrance, and so forth, a distribution of pedestrian use of crosswalks can be formulated.

Crosswalks - Based on the pedestrian trip distribution characteristics summarized in the preceding section, the number of people using the crosswalks can be estimated in the project vicinity (see Table A-10). The number of trips generated at the site are not significant enough to alter the free flow conditions which exist on the site. (see Table A-11 for pedestrian level of service definitions).

Table A-10
PEDESTRIAN CROSSWALK VOLUMES
Projected 1986 Peak 15 Minute Period

Location	Added PM Peak 15 Minute Trips	Total PM Peak Period 15 Minute Trips
19th & Madison		
Crossing 19th-West Crosswalk	3	10
Crossing Madison-South Crosswalk	18	24
17th & Madison		
Crossing 17th-East Crosswalk	8	14
Crossing 17th-West Crosswalk	4	18
Crossing Madison-North Crosswalk	13	21
Crossing Madison-South Crosswalk	3	24
17th & Lakeside (Oak)		
Crossing 17th-West Crosswalk	2	9
Crossing Lakeside-South Crosswalk	1	9

SOURCE: DKS Associates

Table A-11
DEFINITIONS OF PEDESTRIAN LEVEL OF SERVICE

Flow Rate (persons/minute/foot of walkway width)	Level of Service	Walking Speed Choice	Average Conflicts
Less than 0.5	Open	Free Selection	None
0.5 - 2	Umimpeded	Some Selection	Minor
2 - 6	Impeded	Some Selection, Interaction	High Indirect
6 - 10	Constrained	Some Restriction	Multiple
10 - 14	Crowded	Restricted	High Probability
14 +	Congested	All Reduced (Shuttle only in jammed conditions)	Frequent Unavoidable in jammed conditions)

SOURCE: Boris Pushkarer and Jeffrey M. Zupan, Urban Space for Pedestrians, 1975.

APPENDIX C

Noise

APPENDIX C

Part I of this Appendix provides background information to aid in understanding the technical aspects of the noise sections. Part II discusses the noise measurement survey conducted for this report.

I. Fundamentals of Environmental Noise

Three dimensions of environmental noise are important in determining subjective response. They are:

a. the intensity or level of the sound

b. the frequency spectrum of the sound

c. the time-varying character of the sound

Airborne sound is rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB), with 0 dB corresponding roughly to the threshold of hearing.

The "frequency" of a sound refers to the number of complete pressure fluctuations per second in the sound. The unit of measurement is the cycle per second (cps) or Hertz (Hz). Most of the sounds which we hear in the environment do not consist of a single frequency, but of a broad band of frequencies, differing in level. The quantitative expression of the frequency and level content of a sound is its sound spectrum. A sound spectrum, for engineering purposes, is typically described in terms of octave bands which separate the audible frequency range (for human beings, from about 20 to 20,000 Hz) into ten segments.

Many rating methods have been devised to permit comparisons of sounds having quite different spectra. Fortunately, the simplest method correlates with human response practically as well as the more complex methods. This method consists of evaluating all of the frequencies of a sound in accordance with a weighting that progressively and severely deemphasizes the importance of frequency components below 1,000 Hz, with mild deemphasis above 5,000 Hz. This type of frequency weighting reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in the frequency midrange.

The weighting curve described above is called "A" weighting, and the level so measured is called the "A-weighted sound level," or simply "A-level."

The A-level in decibels is expressed "dBA;" the appended letter "A" is a reminder of the particular kind of weighting used for the measurement. In practice, the A-level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve. All U.S. and international standard sound level meters include such a filter. Typical A-levels measured in the environment and in industry are shown in Table C-1.

Although the A-level may adequately describe environmental noise at any instant in time, the fact is that community noise level varies continuously. Most environmental noise includes a conglomeration of distant noise sources which creates a relatively

steady background noise in which no particular source is identifiable. These distant sources may include traffic, wind in trees, industrial activities, etc. These noise sources are relatively constant from moment to moment, but vary slowly from hour to hour as natural forces change or as human activity follows its daily cycle. Superimposed on this slowly varying background is a succession of identifiable noisy events of brief duration. These may include nearby activities or single vehicle passages, aircraft flyovers, etc., which cause the environmental noise level to vary from instant to instant.

To describe this time-varying character of environmental noise, the statistical noise descriptors L1Ø, L5Ø and L9Ø are commonly used. The L1Ø is the A-weighted sound level equalled or exceeded during ten percent of a stated time period. The L1Ø is considered a good measure of the "average peak" noise. The L5Ø is the A-weighted sound level equalled or exceeded 5Ø percent of a stated time period. The L5Ø represents the median noise level. The L9Ø is the A-weighted sound level equalled or exceeded during 9Ø percent of a stated time period. The L9Ø is used to describe the background noise.

As it is often cumbersome to describe the noise environment with these statistical descriptors, a single number descriptor called the "Leq" is also used. The Leq is defined as the equivalent steady-state sound level which in a stated period of time would contain the same acoustic energy as the time-varying sound level during the same period. The Leq is particularly useful in describing the subjective change in an environment where the

source of noise remains the same but there is change in the level of activity. Widening roads and/or increasing traffic are examples of this kind of situation.

In determining the daily measure of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises.

During the nighttime, exterior background noises are generally lower than the daytime levels. However, most household noise also decreases at night, and exterior noises become very noticeable. Further, most people are sleeping at night and are very sensitive to noise intrusion.

To account for human sensitivity to nighttime noise levels, a descriptor, CNEL (Community Noise Equivalent Level) was developed. The CNEL divides the 24-hour day into the daytime of 7:00 am to 7:00 pm, the evening of 7:00 pm to 10:00 pm, and the nighttime of 10:00 pm to 7:00 am. The evening noise level is weighted 5 dB higher than the daytime noise level and the nighttime noise level is weighted 10 dB higher than the daytime noise level. The CNEL, then, is the A-weighted average sound level in decibels during a 24-hour period with 5 dB added to the hourly Leqs during the evening and 10 dB added to the hourly Leqs during the nighttime. For highway noise environments, the Leq during the peak traffic hour is approximately equal to the CNEL.

The effects of noise on people can be listed in three general categories:

a. subjective effects of annoyance, nuisance, dissatisfaction

b. interference with activities such as speech, sleep, learning

c. physiological effects such as startle, hearing loss

The sound levels associated with environmental noise, in almost every case, produce results only in the first two categories. Unfortunately, there is as yet no completely satisfactory measure of the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance, and habituation to noise over differing individual past experience with noise.

Thus, an important parameter in determining a person's subjective reaction to a new noise is the existing noise environment to which one has adapted: the so-called "ambient" noise. "Ambient" is defined as "the all-encompassing noise associated with a given environment, being a composite of sounds from many sources, near and far." In general, the more a new noise exceeds the previously existing ambient, the less acceptable the new noise will be judged by the hearers.

With regard to increases in noise level, knowledge of the following relationships will be helpful in understanding the quantitative sections of this report:

a. Except in carefully controlled laboratory experiments, a change of only one dBA cannot be perceived.

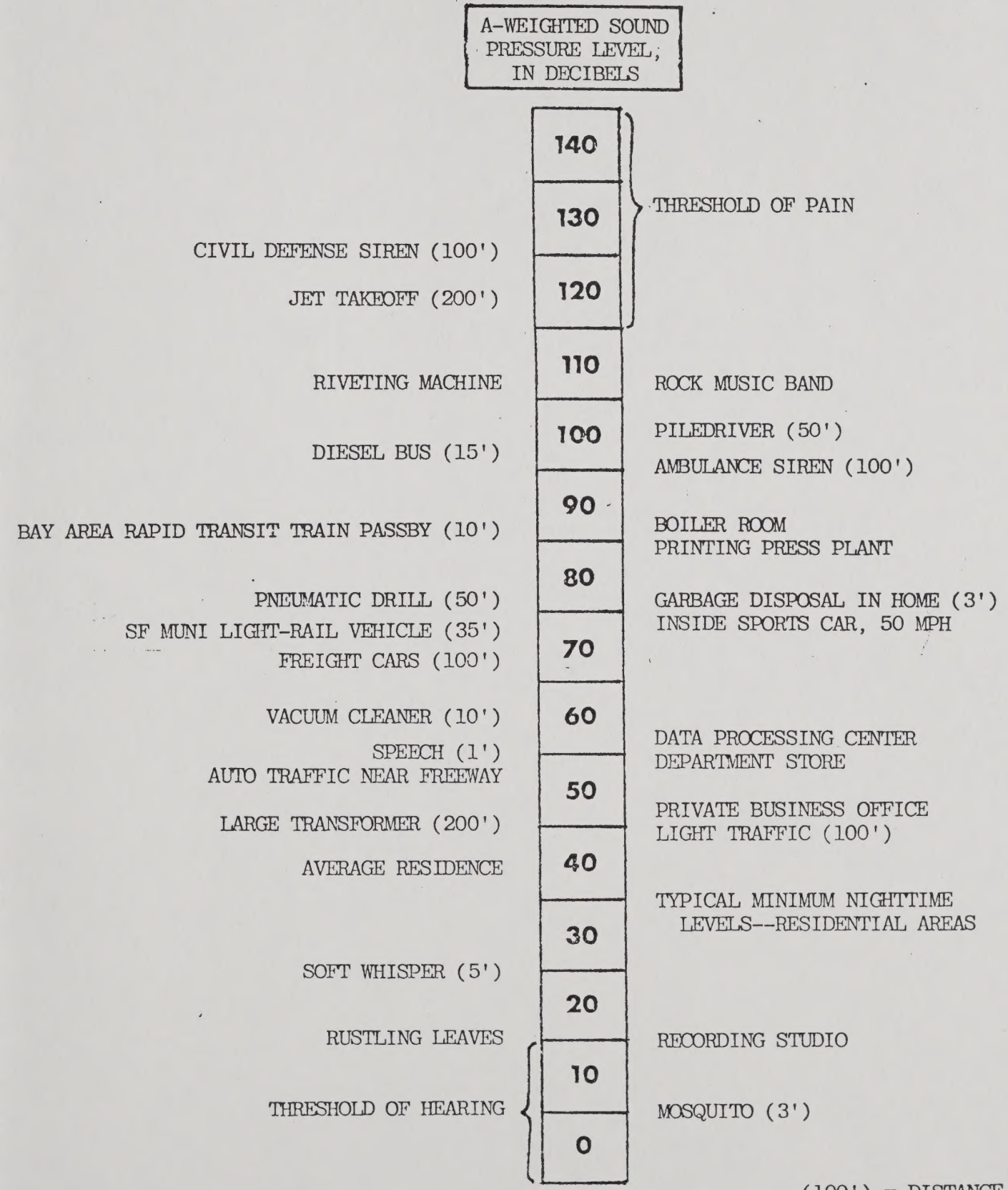
b. Outside of the laboratory, a 3-dBA change is considered a just-noticeable difference.

c. A change in level of at least 5 dBA is required before any noticeable change in community response would be expected.

d. A 10-dB change is subjectively heard as approximating a doubling in loudness, and would almost certainly cause an adverse change in community response.

Table C-1

Typical Sound Levels Measured in the Environment And Industry



SOURCE: CHARLES M. SALTER ASSOCIATES